Phi Delta

KAPPAN

A Journal for the promotion of Research, Service, and Leadership in EDUCATION

- A CHRONICLE OF MASKS
- PITY—OR ENVY—THE ONLY CHILD?
- LET'S RE-EXAMINE PROGRESSIVE EDUCATION

Fifty-first Year

May, 1957

VOLUME XXXVIII
NUMBER 8

Phi Delta KAPPAN

VOLUME XXXVIII • NUMBER 8

Journal of Phi Delta Kappa, Professional Fraternity for Men in Education

For the promotion and improvement of free public education through a continuing interpretation of the ideals of research, service, and leadership

Officers of Phi Delta Kappa

M. L. CUSHMAN, *President*, College of Education, University of North Dakota, Grand Forks, N.D.

CHARLES R. FOSTER, *First Vice-President*, School of Ed., University of Florida, Gainesville, Fla.

JOHN C. WHINNERY, *Second-Vice President*, 123 South Montebello Blvd., Montebello, Calif.

ERNEST M. ANDERSON, *Recording Secretary*, Kansas State Teachers College, Pittsburg, Kans.

J. ROY LEEVY, *Comptroller*, Educational Building, Purdue University, Lafayette, Ind.

MAYNARD BEMIS, *Executive Secretary*, Eighth St. and Union Ave., Bloomington, Ind.

Editorial Consultants

DAN H. COOPER, Associate Dean, School of Education, Purdue University, Lafayette, Ind.

E. T. MCSWAIN, Dean, School of Education, Northwestern University, Evanston, Ill.

JOHN R. ROWE, Educational Director, Encyclopedia Britannica, Inc., 425 North Michigan Avenue, Chicago 11, Ill.

ROY K. WILSON, Director, Press and Radio Relations, NEA, 1201 Sixteenth St., N.W., Washington 6, D. C.

Editorial and Business Staff

STANLEY ELAM, *Editor;* JOHN R. JONES JR., *Business Manager*, Eighth St. and Union Ave., Bloomington, Ind.

In This May 1957 Issue

	Page
Editorial	297
A Chronicle of Masks, *Max Rafferty*	298
Pity—or Envy—the Only Child? *Ralph R. Cummings*	302
The Teaching Profession—1987, *George F. Fischbeck*	307
The Ubiquitous I.Q., *S. C. Bolstad*	308
Let's Re-Examine Progressive Education, *Philip Olgin*	309
Tests of Statistical Significance, *C. M. Lindvall*	314
How College Students Can Teach Themselves, *George Yeisley Rusk*	317
What Has Raymond Done Now? *Leila Stevens*	320
The Astonishing Library, *Warren D. Allen*	324
Crystal Balls Among the Chalk Dust, *Robert C. McKean*	325
Keeping Abreast in Education	328
S-R Bonds	334
"We Hold These Truths"	Inside Back Cover

Copyright, 1957, by Phi Delta Kappa, Inc.

Entered as second-class matter at the post office at Spencer, Indiana, under the Act of August 24, 1912. ☆ Published monthly, October to June, inclusive, by Phi Delta Kappa, Inc., at Spencer, Indiana. Acceptance for mailing at a special rate of postage is provided for in the Act of February 28, 1925. ☆ Subscription rate, $4.00 per year. Single copies, while available, 50 cents each, from the Bloomington Office. ☆ Official statements of Phi Delta Kappa are so indicated. Other statements and articles are published as expressions of the personal views of the writers. ☆ Listed in *Education Index*, published by the H. W. Wilson Company, New York, N. Y. ☆ EDITORIAL OFFICE: Phi Delta Kappa, Eighth St. and Union Ave., Bloomington, Indiana. ☆ Member, Educational Press Association of America.

Address all communications, purchase orders, and address changes to the Business Manager, PHI DELTA KAPPAN, Eighth St. and Union Ave., Bloomington, Indiana.

The ICBM and Education . . .

A Salute to the Expanding NEA

NEWS item: "The U. S. Armed Forces will spend six billion dollars on missiles next year, about 20 per cent more than last year." We have been sitting here in the editorial easy chair trying to wrap our bill-bothered brain around this sum of money. To use the language of the science fiction boys, the mind boggles.

One way of tackling six billion dollars so that the teacher intellect can get a grip on it is to note that this is about two-thirds of the sum mentioned as the total annual expenditure for public education in the United States. This includes the cost of educating some 25,000,000 children ranging in age from six through seventeen in 125,000 public elementary and 25,000 public secondary schools. It includes a large part of the cost of educating more than a million and a half young adults in 650 tax-supported institutions of higher learning. It includes the cost of plant and special services, of power and water and heat and sweeping compound and adhesive tape. It includes the cost of operating and maintaining a fleet of school buses that rivals the Army transport command at its World War II peak. It includes the pay of nearly a million teachers at an average salary in the neighborhood of $4,000 per year.

The $6 billion we will spend on our thirty or so rockets, ballistics, and guided missiles next year is of course only a fraction of the total cost of national defense. The whole program will cost more than seven times this amount, a fantastic figure no teacher can begin to comprehend.

If you think we are about to suggest that America's sense of values is topsy-turvy, you are wrong. We have no more desire to be the victim of a total Pearl Harbor than the next person, and we agree with Major General Ben Schreiver that it would be too bad to let Russia get the jump on us in producing an intercontinental guided missile with a 5,500 mile range and an H-bomb warhead.

No, our point is quite a different one.

The American people believe so strongly in the need for national defense that they hardly count the monetary cost. News stories refer almost casually to the $4,000,000 price of an ICBM (enough money to build three fine junior high schools or pay the salaries of 1,000 teachers for a year), and the taxpayer looks forward joyously to the day when we will have enough of them to annihilate the enemy at a moment's notice (probably the moment after we have ourselves been annihilated).

The American people also believe strongly in the need for good education. But they take it for granted. They don't get excited until Johnny is put on the half-day shift.

The fact that our citizenry hasn't been fully aroused to the advantages of expending more for the schools has often been laid to the difficulty of dramatizing education effectively. There is something in this, of course. It is very tedious to show that the shortage of scientists and engineers for the ICBM program is related to our chronically underfed secondary schools program, whereas any PIO dilettante can paint purple word pictures of supersonic missiles traveling 500 miles above the earth's surface. Put him in a school public relations office, they will tell you, and your PIO hotshot can't even get a reporter assigned to the monthly board meetings.

Is there a solution to the problem? We believe there is, and we believe that educators are on the verge of finding it.

That is why we take this opportunity to salute the National Education Association and its multitude of affiliates. The NEA is trying with considerable success to supply some of the elements which, in combination, will have a real effect on the school support problem. *These elements begin with organization and leadership.*

We like the NEA centennial drive to double its dues. Teachers must realize that every penny is a worthwhile investment—not just a self-interest investment but a contribution to total educational progress. With well-supported organization and leadership, one million teachers can begin to exert their very real political power. And let's face it: In a democracy, political power unexercised in so responsible a group is tantamount to subversion. The NEA's professional program is healthy and dynamic, but it should be secondary. The NEA's political wallop is just being developed, and we believe in beefing it up.

—S. E.

A Chronicle of Masks

What is the true face of Education? She has worn many different masks—the primitive, the classical, the medieval, the Renaissance, the nineteenth century—and now we enter the Age of Imbalance, "with dissonance and the shrieking of gears." Is our current trust in Science also a delusion? Here is another compelling piece by the author of "Suffer, Little Children."

By **MAX RAFFERTY**

THE false face is as old as history. Rigid with menace or plastic with merriment, it veils with secretive impartiality the glower of the burglar, the fanatic glare of the witch doctor, and the lovelorn gaze of Harlequin. It gapes jocosely beneath the tangled curls of childhood; it rises blackly above the prognathous jaw of the headsman. How many frantic love affairs, from Juliet to Du Barry, have thriven under the glittering promise of the domino? How many anguished mourners have watched with silent tears the agile fingers of the artist, fitting into the undying plaster of the death mask the immobile features of the departed?

Drama, that unexcelled catharsis of the human spirit, began with masks. Aeschylus and Sophocles designed their winged dialogue to issue resonantly from the brazen mouthpiece of the tragic mask, while Aristophanes laughed his way to immortality behind the carven grin of Comedy. Hellenic sculpture, with its placid, perfect features, aped the stage, and fashioned of Pentelic marble faces that were in all but texture masks. The gods themselves concealed their lineaments from mortal eyes with the ubiquitous and stylized scraps of cloth and thread and metal.

Legend has it that once, and only once, Chance ushered confusion into the royal house of France in the persons of twin sons, born equal and impossible heirs to the mightiest throne in Europe. Rumors of the calamity in the very throes of consummation sped on the pallid lips of hastening couriers to the ears of Richelieu. The sinister statesman acted without delay. Standing impassively beside the moaning Anne of Austria, the cardinal issued his directives.

"If the second child be a prince, let him be taken privily from the palace and forthwith delivered to my chamberlain. The midwife and physician I shall honor with my personal attention."

Thus, and in the course of a few hours, the second son of Louis XIII drew his first breath, only to be spirited away forever from the sight of man. The unconscious mother never knew of his existence. Still less guessed the glittering court, and even Holy Church muttered its orisons and told its beads in ignorance of the little Dauphin who had been born. Those unfortunate enough to have assisted at the accouchement received the Cardinal's reward, a speedy death.

Many years later, a certain rumor spread, a stream without apparent source, of one immured in the great pile of the Bastille, treated with all honor and loaded with luxuries commonly reserved for princes of the blood. His face was eternally covered by a vizard of metal, riveted immovably and gleaming blindly in the flickering torchlight of the gloomy fortress. The legend of the Iron Mask had come to haunt the imagination of the world.

It is no accident that the mask has always symbolized mystery. The covering of the face removes the necessity for inhibiting the emotions, and permits the release of the most basic and primitive feelings from behind the screen of anonymity. Nothing is more popular than the masquerade party, and its reputation for both erraticism and eroticism is often well deserved. The spirit leaps exultantly, freed if only for a space from the policeman's grasp of recognition.

Yet there is one species of masking which has as its goal not the nepenthe of release, but its antithesis. Richelieu's prisoner suffered behind his malignant helm, not because of its shape or weight or color, but because it had been fastened upon him by another, and without his consent. The very namelessness in which we revel when we can assume it at will becomes a millstone of incalculable weight when it is attached to us against our wishes. It has therefore been

MR. RAFFERTY *(Alpha Chi 36) is superintendent of schools in Needles, California.*

rightly said that the true sin against humanity lies in the forcing of an alien identity upon a fellow creature, in the molding under pressure of the immortal life-stuff into a form unintended by the Creator. When we thrust a mask upon another, we commit a crime.

It is this crime which we have committed against Education. We have constrained her to wear not one, but a succession of masks.

The Primitive Mask . . .

When Tegumai, the Neolithic hunter, took his son into the trackless forest, he taught him survival. The trick of the deadfall, the cunning of the snare, the lore of the bow and spear were imparted one by one by the Old Man to the younger. Whether he taught the chipping of one stone against another, or the curing of the deerskin, the primitive instructor wasted no breath, brooked no argument. Generations of trial and error had condensed knowledge into a package, the compactness and simplicity of which has been unmatched to this day. Each lesson was driven home by fear and seared upon the memory by necessity.

A contemplative Tegumai, had one existed, might well have congratulated himself upon his success as a teacher.

"Education," he would have concluded inescapably, "is a Craft."

The Classical Mask . . .

The peripatetic philosophers, strolling beneath the columns of the Stoa, discussed justice and truth and honor as delightful abstractions. The youthful Alcibiades, drunken and ribald, attached himself to the grotesque figure of Socrates as today our teenagers fasten upon some illiterate, guitar-strumming hillbilly, and with the same motive: entertainment.

"Oh, Socrates," he blurted, "truly, I had rather be in your company than at a banquet."

Learning was a delight to the ancient world, a splendid challenging of the mind. Better than new wine was the intoxication of new ideas. Geometry was taught as an intriguing game, the great epics as fascinating fiction. It was no accident that music ranked level with mathematics and astronomy in the quadrivium. To the ancients, all were equally amusing.

Plato, lifting his white head from the gentlemanly circle of the Academy, smiles at us down the centuries.

"Education, of course, is a Recreation."

The Medieval Mask . . .

The typical teacher of the Middle Ages was St. Thomas Aquinas. In his attempt to reconcile the logic of Aristotle with the Gospels, he embodied all that was earnest combined with all that was subtle of a period that glorified both qualities. Instruction for a thousand years had one purpose, and one only: the greater glorification of God. It existed to bear witness to the revealed Truth. The teacher taught facts and attitudes with the Kingdom of Heaven constantly in mind. No branch of learning was justified unless it contributed in some measure to the saving of the soul.

Alcuin, great teacher of the sons of Charlemagne, summed up the thinking of the Scholastics: "We study grammar that we may the better comprehend the Scriptures; drawing, that we may present the fall and redemption of man in graphic form for all to understand; music, that we may glorify God in the language of the blessed angels."

Latest blooming but most splendid flower of medieval education was the Order of Jesus. Tutoring in a dozen courts, proselytizing in a hundred wildernesses, shoring up their doctrines in a thousand monasteries, the Jesuits brought to fruition ten centuries of God-centered instruction. These stark, black-robed enthusiasts had no slightest doubt of their mission. Their chant still echoes in a vastly different world.

"Education is Evangelism."

The Renaissance Mask . . .

Cellini, shaping the jeweled miracles that made his name immortal, quipped that he was in love with Venus and Apollo. Lorenzo de Medici, embarked upon the great collection of classic art that has forever coupled magnificence with his title, regretted only that his time was not contemporary with that of Phidias and Apelles, and forced himself to be reluctantly content with Michelangelo.

Erasmus said of the Humanists, "They seek not to center earthly life in God, but rather in Man, after the fashion of the antique Greeks and Romans."

Scrolls that had not been opened for a millenium were brought to light by eager clerks and scholars. Attic Greek, a lost language for a thousand years, was smuggled into a still-barbaric Europe from a crumbling Byzantium, and catalyzed the worship of the past into one white-hot blaze of longing for a beauty and a learning that had been forgotten. The present was contemptible, the future unpredictable. The past alone was precious and unique, shimmering like St. Brendan's Isle above the boundaries of the at-

tainable. A host of struggling artists and ink-stained students sent up the nostalgic murmur:

"Education is the loving resurrection of the Past. It is Antiquarianism."

The Nineteenth Century Mask . . .

Newtonian physics was beginning visibly to break down. Darwin and Huxley were thundering in the wings, and cracks were starting to appear in the very foundation of Things As They Are. Yet the Age of Victoria strove desperately to cling to those twin idols, Order and Appearance. It is no coincidence that in this era Education made her first appearance as a mass phenomenon. The established order invoked her in a vain effort to hold back the tide of the future, but, like the genie in the bottle, she refused to keep the shape in which she had been envisioned by her discoverer.

The attempt was made, however, and made vigorously. It took the form of instruction in the harmless fields of dead languages, ancient history, theology, and literature. Science in the people's schools had an uphill battle; it tended to discourage orthodoxy. Euclidean geometry was welcomed as an intellectual toy, but the new-fangled notions of differential calculus and space-time continuum mathematics were taboo. Law was the proper study of the gentleman; it rested on precedent, and abhorred novelty. Classes were taught to memorize, to recite, and to indite, seldom to think.

These worshipers of the status quo regarded the instruction of their children with mixed emotions. In the proper hands, they assured themselves, it would be quite safe, perhaps even mildly beneficial. They settled their cravats and rattled their teacups with apprehensive assurance.

"Education," they told themselves in well-bred accents, "is Rote."

The Twentieth Century Mask . . .

Enter the Age of Imbalance, with dissonance and the shrieking of gears. For the first time, the masses took over the reins instead of merely supplying the horsepower. Never before had Education been so honored; never before had she been so prolific. Her temples polkadotted the land and, after centuries of neglect, she now found herself reviled for her failure to supply immediate answers to unprecedented questions. The innocent victim of a popular dichotomy, she became at once the object of adoration and the butt of ridicule.

In their perplexity, her devotees turned with relief to the new spirit of investigation and classification that walked abroad in the land, altering old concepts and uprooting cherished beliefs with the blind and impartial force of the hurricane.

"Surely," they told one another, "in an age which piles marvel upon marvel, and bases all its garish superstructure upon a foundation of constant flux, Education must also undergo a metamorphosis."

And so they forced upon her still another mask. This, like the one that cast its unseen shadow against the grey walls of the Bastille so many years ago, is of burnished metal, but its form is vastly different. Cast in the shape of a machine, the twentieth century mask glows with cold electronic fires and pulses with a myriad tiny, moving parts. These bear such labels as "retroactive inhibitions," "standard deviations," and "partial correlations." The mask is never quite the same two moments in a row, but somehow manages to contain the St. Vitus leapings of its shifting cogs within the confines of its master matrix. The contours of the mask are streamlined and utilitarian; they mirror the eternal minuet of stimulus and response, and the frigid logic of sociological trends. The features breathe an icy confidence, a satisfied certainty in the right answers.

Above the clicking of their tabulating machines and the rustle of the rats in their mazes, the white-clad acolytes of twentieth century learning gaze emotionlessly out of a thousand television screens.

"Education," they enunciate precisely, "is a Science."

* * * *

The cream of the jest is, of course, that Education is simultaneously all and none of these things. Like the blind men and the elephant, humanity has oscillated from one aspect of Education to another throughout recorded history, each time identifying her in accents of surprise with a different one of her innumerable attributes. Education, for example, is not a Craft, although she teaches many crafts; she is not Recreation, though she makes constructive recreation possible. Neither is she Antiquarianism nor yet Memorization, regardless of how large these worthy functions may bulk in the educational pattern as successive generations wax and wane. In our own time, the identification of Education with Science is understandable. We have put all our eggs for the future into one basket labeled Science, and, with our childlike faith in the magic of names, we have attempted to crowd Education into the back door of the laboratory so that she might be revivified and transmuted by the "big medicine" which clusters around the name of Science.

But Education is not a science.

Massive injections of psychology and sociology and statistical methods do not produce a science. The brandishing of fairy wands in the form of fruity phrases such as "on-going," "forward-looking," and "meaningfully-relevant" will not, despite our fervent supplications, confer the sterile mantle of science upon the shoulders of our profession. The irony of the whole affair is that we should ever wish for her to become a science. Science is a continuing search for knowledge, a perpetual balancing of postulates with proofs. Education is so much more than this that for its practitioners to rest content with science makes as little sense as did the smugness of our Victorian forbears with the ultimate utility of rote.

If Education were a science, and nothing more, we would not be worrying about pupil attitudes and creativeness and imagination. The trick of Science lies in the artful elimination or the minimizing of variable factors, but Education deals with nothing but variables. The statistics upon which we set such store melt into slush when confronted by the stubborn non-conformity of the individual. The laws which mean so much to Science and which, like those of the Medes and Persians, alter not, are strait-jackets when applied to Education. Science by its very nature must regard the individual as one out of a swarming mass of units which combine to prove a theorem. To Education, the individual is the be-all and the end-all of the profession.

The educator should approach his class, not as the chemist appraises his retorts nor the astronomer his nebulae, but rather as the conductor confronts his symphony orchestra. From the breathless whispering of the strings, from the clarion pealings of the brass, from the muted thunder of the percussions, the conductor will weave the very fabric of great music, threaded throughout with the polychromatic strands of his own genius. Even so will the teacher evoke from the myriad experiences and abilities of his pupils the chords which, laced and interwoven with something of himself, will ring grandly in the harmony of life. There is a mingling of moods, an elusive interplay of spiritual counterpoint implicit in the teaching process which marks the closest human approach to the phenomenon of symbiosis. In its highest form it approximates creation, a far cry indeed from Science, which unleashes the forces of the mind upon matter to transform and to refashion, but never to create.

This is an eternal verity. It has always been true. It always will be. It had the same solid ring of reality in the days of Pericles that it will have for our remote descendants. We must train our teachers as a sculptor is trained, not as a physicist. They must think like poets, not like statisticians. For they are dealing not with things, like the chemists, nor with bodies, like the physicians, nor yet with minds alone, like the psychologists. To them and to us is reserved the splendid privilege of fashioning and nurturing those coruscating and iridescent entities called personalities, transient as the glancing sunbeam but more lasting than the granite of our hills. It is at once the most precious and most dangerous duty entrusted by mankind to men. It can be properly consummated only by stripping the last of the disfiguring masks from the lovely face of Education, that we and those who follow us may look on Beauty bare.

Education is an Art.

From "Where Do We Go From Here?" by W. C. Smyser, in *College and University*, Spring, 1957:

"I think we shall have to stop kidding ourselves about research. I make this statement with some misgivings, because I know how easily it could be misunderstood. I am not belittling research; I know too well how much it has contributed to every phase of human welfare, and how often an obscure investigation has resulted in untold benefits to humanity. But I wonder how many thousands of hours of man power are wasted each year on research that was not worth doing in the first place, or for which the researcher was poorly equipped. We need to examine research projects and research ability with a much more critical eye before we reduce teaching loads to provide for them. There is a large body of inquiry which I think of as "So what?" research, like investigations into *Boswell's Use of the Comma* or *Botanical Allusions in Shakespeare*. I know an English scholar—and a competent one, too—who spent a summer proving that, while Chaucer's characters slept in nightgowns, Chaucer himself slept in the nude. The earthshaking consequences of this discovery have not yet become apparent, at least to me. A few years ago—believe it or not—somebody got a Ph.D. degree on a dissertation on *The Micturition Pattern of the Dog*. Which is hifalutin language for *What Makes Dogs That Way about Fireplugs*. It would not be hard to find dozens of similar trivialities that have served as an excuse for light teaching loads, and that, when published (no matter where), have helped their perpetrators toward promotions and salary increments. Some kind of critical screening of projects and scholars would divert much wasted energy into teaching. And by the same token, a college is first and foremost a teaching institution; its reverence and its rewards should go to good teaching above all things.

Pity—or Envy—the Only Child?

"God pity the only child and have mercy on his parents," entreats one authority, echoing the folklore. But this study reveals evidence so conflicting that few valid conclusions can be drawn with regard to the handicaps of "only-ness." Actually, given intelligent parents, its advantages may more than offset the quite real disadvantages.

By **RALPH R. CUMMINGS**

BOTH popular comment and experimental observations have agreed that the only child differs in certain respects from other children, and that he represents a highly complex problem in child behavior. Such children have always been easily identified and singled out for study and analysis. Many times generalizations have been made without sufficient evidence regarding the characteristics of the only child, and these have become popular in child analysis. The only child has been identified by popular opinion as being spoiled, egocentric, difficult, unsocial, sensitive, isolated, hesitant, and unduly dependent. On the other hand, some of the more scientific literature describes the only child in terms of causative factors, reporting that he (1) lacks necessary association with other children, and (2) receives too much attention from the parent. While both descriptions appear to be founded on adequate observable data, it is evident that there are many variables operating within the child and many variables operating on the child from environment which make definite conclusions quite difficult.

The following quotation from Thorpe seems to describe the general attitude of the public toward the only child and his parents:

> If he fights with others, it's because he never learned to share. If he doesn't fight, it's because he has been dominated by adults and has never learned to stand up for his rights. If he is happy, it's because he has everything. If he cries, it's because he's spoiled and must have his own way. God pity the only child, and have mercy on his parents.[1]

The census of 1940 revealed that 48.9 per cent of the homes in the United States had no related children under 18 years of age, 21.3 per cent of the homes in the United States had only one child, 14.5 per cent had only two children, and 7.3 per cent had three children. Similar statistics are found in the 1956 *Statistical Abstract*. It indicates that 41.2 per cent of the families sampled had no related children under 18 years of age, 20.5 per cent of the families had only one child, only 9.9 per cent of the families had three children, and 8.2 per cent of the families had four or more children. This indicates that the small family pattern is quite characteristic of the American home, and that about 20 per cent of all families have only one child. There has been an increase of the phenomenon during the last century almost ten times that of the previous century.

With the coming of industrialization and urbanization in America, the family structure has shifted from the pattern of economic independence to economic dependence, from social isolation to social interaction, and from the large family to the small family pattern. Such radical changes in the family role have become increasingly important in child rearing and the problems of child development.

Bossard and Sanger[2] made a study of twenty-five families with a total of 222 children. They concluded that there were distinct patterns of living for both the small family and the large family. A small family was defined as a home with three or fewer children. The suggestion was made that the small family system contributes certain situations which may be advantageous for the child. Children in such homes enjoy the superior advantage of individual care and concern where the individual is emphasized, while in the large family the group receives greater attention. In the small family, freedom of expression and action is encouraged for each individual in the family.

The small family is usually a planned family, where planning becomes the dominant theme. The child enjoys the privilege of being prepared for, wanted, and loved upon his arrival. A program

MR. CUMMINGS *(Alpha 2278) is a lecturer in guidance at Indiana University. He has an only child!*

[1] Thorpe, E., "Only Child," *Todays Health*, 28:24,25, June, 1950.

[2] Bossard, James H. S., and Sanger, W. P., "The Large Family System—A Research Project," *American Sociological Review*, 17:3-9, February, 1952.

of growth and development is planned, with education and professional training included. Some authors suggest that this is the birthright of every child. In the small family pattern, man attempts to control nature and natural events to promote the good of those concerned.

In the only child's home, parental concern is focused on one individual. Opportunity for a better socio-economic status is present, with such advantages as toys, literature, travel, and many other modes of intellectual and cultural development. Usually the home of an only child is better furnished and more ideally located than is the home of the family with more than one child whose parents have a similar income.

The implications of the home situation of the only child are many. In such homes, the child may conceive the idea that he is the most important unit in society, and he may not learn the art of sacrificing for a desired end or of sharing with others who are less fortunate than he. The constant pressure upon the child to "make good" may be too heavy for him to carry, and this may result in behavior patterns not acceptable either to the home or to society.

The Position of the Parent

The problem of the parent of the only child is not a simple one. It is filled with many anxieties and pressures from within and with scorn from friends who frequently remark, "But surely you are going to have more than one child." It seems to matter little whether the child is healthy, happy, adjusted, and sociable; it just is not good for him to live alone in a family; he should have other children with whom to grow up.

Public opinion may be so strong that many parents feel apologetic and make excuses for having only one child. These mechanisms of self-defense may include, "We are too old," "We can't afford more," or "God doesn't give us more." For parents to admit that they are happy with one child and enjoy living with that size family is so unpopular that most people refrain from making such a statement and appear to be rather disappointed with the situation. Many such parents have been made to feel that they are shirking their duty to themselves, to society, and, most of all, to the child.

Emotional and personal stability of the parents appear to be important factors in determining the atmosphere of the child's home. Anything that causes a parent frustration and anxiety reflects itself in the personality of the child. Parents with an only child have a special obligation to look objectively at the situation, to make personal adjustments in attitudes and feelings, and to face the critical public with an air of confidence and assurance. The child should not need to bear the "sidewise glance" of pity, but rather should have confidence and security as a result of emotionally-adjusted parents.

Leaving Each Other Alone

The home of the only child is apt to be adult-centered in planning, thinking, and living. Conflicts may arise when the child does not fit into the adult program and, as a result, the child may stand alone against two adults. The parents need time away from the child to look at things more objectively, and the only child needs time away from parental gaze to work out some of his problems in his own way. In a one-child home, adults should be adults and the child should be allowed to grow as a child grows.

As suggested earlier, the pressure parents may place upon the only child to succeed may be too great a burden. Ambitions of the parents have only one chance of being realized; therefore time, attention, educational advantage, travel, and cultural opportunities are heaped upon the one who is to bring honor to the family name. In this the parents may become over-solicitous and over-anxious, which may do more harm to the child than good. No child should be asked to bear the full weight of two adults' hopes, dreams, ambitions, and affections.

Since the only child has no siblings with whom to adjust and react, the parents may become his only source of adjustment patterns in the home. It has been observed that social behavior develops in the child quite early in life and that he absorbs into his own personality (1) the way his parents react to each other, (2) the way others react to his parents, and (3) the way the parents react to him. It appears that his adjustments in society are determined, to a large extent, by the parental adjustments in the home.

There are many problems peculiar to the only child situation, but there are also many advantages. If the situation is approached with an objective, unemotional attitude, it appears that parents should be able to give the only child a good, wholesome start in life. By careful planning, the child may be given an opportunity to contact other children outside the home who may aid in the development of the grace of give and take in life.

Bossard[3] suggests that the only child tends to

[3] Bossard, James H. S., *Sociology of Child Development*, p. 242.

be enthusiastic about guests in the home because they alter the relatively routine order of the parent-child relationship. Many parents use this method to widen the adjustive experiences of the child. Crowder[4] suggests that parents may help the child to overcome the alone situation by (1) providing him with companions about his own age, (2) installing play equipment that will attract other neighborhood children, (3) encouraging group activity, (4) commending generosity and sharing, (5) offering opportunities for work and taking of responsibilities, and (6) avoiding pampering.

Is He Prone to Delinquency?

Sutherland[5] suggested that the only child is thought of as being prone to delinquency. However, studies to be discussed later disagree as to delinquent tendencies among children who are alone in the family. Those who believe that the only child is especially likely to be delinquent explain that it is due to parental over-solicitude and lack of opportunity to develop adjustive behavior during the early years of life. A child adjusts to any given situation in a manner in keeping with devices at his disposal. The only child should not be thought of as a "problem child but as a child with problems."[6] Such generalizations as Sutherland's usually overlook important factors such as age, broken homes, socio-economic status, or other selective criteria.

From quite detailed information available on 2,000 juvenile offenders in Detroit, it was found that the only child is about half as likely as children with siblings to become an offender, yet he is just as apt to belong to gangs. Cultural factors were found to be of great importance, while family position or number of persons in the family appeared to be much less important than some have contended. It was also found that the average size of the family of children in juvenile court is five, and that the only child is not typical.[7]

Over-Protection Vs. Sibling Rivalry

It has been pointed out that popular opinion regards the only child as being in grave danger of anti-social tendencies such as selfishness, delinquency, tantrums, and many other troublesome attitudes and acts. These tendencies may have been the result of not needing to adjust to siblings and of having received the undivided attention of adults. It has been asserted that such spoiled children are likely to be undisciplined, egocentric "brats" who were bound for trouble.[8] Counterbalancing such ideas are the theories that, although the only children are likely to have overprotection from adults, they have the advantage of being spared the "personality damage" caused by sibling rivalry.[9]

Perhaps some of the popular opinions regarding problems of the only child came from the findings of an early study by Bohannon[10] in 1898. He made use of a quentionnaire to teachers regarding 381 children. His reported findings were:

1. The only child is below average in health and vitality.
2. Nervousness and physical disorders seem to be common in the families of one child.
3. The only child appears to enter school later and to be less regular in attendance than other children. Academic success is less than average.
4. The only child has less command of himself socially than other children, and his social relations are more frequently characterized by friction.
5. Unusual precocity is common among children who are alone in a family.
6. The only child indulges in imaginary companionship to compensate for immediate real companionship.
7. The only child manifests traits of selfishness and also traits of affection.
8. As a rule, the only child home is one of indulgence.
9. Precocity appears to be the most prominent trait and selfishness the most frequently named trait of the only child.

A later study by Blatz and Bolt[11] involving 786 school children in Toronto indicated that the forty-five children from only child families in the group have the best record in general and also have the highest percentage with no record of misdemeanors.

In 1928, Fenton[12] made two important studies that have been quoted quite extensively in the literature. The population used in his first study was composed of 193 children, including thirty-four children from only child families. The second study included 512 university students, of whom seventy-three were children of only child families. Information for the studies was obtained from teachers who were asked to rate each student on self-confidence, generosity, attentiveness, aggressiveness, cheerfulness, emotional sta-

[4] Crowder, Fransworth, "Is the Only Child Behind the 8 Ball," *Better Homes and Gardens*, 27:220-221+, September, 1948.

[5] Sutherland, Edwin H., *Principles of Criminology*, p. 168.

[6] Wattenberg, W. W., "Delinquency and Only Children: Study of Category," *Journal of Abnormal Social Psychology*, 44:356-366, 1949.

[7] *Ibid.*, p. 360.

[8] Crowder, *op. cit.*, p. 221.

[9] Wattenberg, *op. cit.*, p. 362.

[10] Bohannon, E. W., "The Only Child in a Family," *Journal of Genetic Psychology*, 5:475-496, 1898.

[11] Blatz, W. E., and Bolt, E. A., "Studies in Mental Hygiene of Children," *The Journal of Genetic Psychology*, 34:552-582, 1927.

[12] Fenton, N., "The Only Child," *The Journal of Genetic Psychology*, 35:546-555, December, 1928.

bility, modesty, sociability, emotional response, obedience, truthfulness, and initiative.

Fenton found that the only child was rated a little more selfish, unsocial, unpopular, and disobedient. However, the only child was rated high in leadership, self-confidence, and aggressiveness. Fenton observed that it was very possible that the problems of the only child may have been magnified in the past, but he hastens to add that "one may expect apriori that all children will have problems of one kind or another." Fenton quoted earlier authors as saying that:

> The only child is greatly handicapped. He cannot be expected to go through life with the same capacity for adjustment that the child raised in the family with other children has. . . . He knows only how to compete with adults by using infantile behavior.[13]

The information from his own study and the information quoted led Fenton to urge parents who cannot have more than one child of their own to make adoptions in order to provide companionship for the child.

Guilford and Worcester[14] obtained teacher ratings on an eighth grade class of the Lincoln (Nebraska) Junior High School. For the purpose of making a comparative study of two groups, the class of 162 children was divided into two groups, a first group of twenty-one children from only child families and a second group of 141 children with siblings. The comparisons were made on fifteen items, including I.Q., academic marks, occupational status of parents, extra-curricular activities, courtesy, truthfulness, industry, initiative, self-control, cooperation, dependability, health, cleanliness, conformity to law and order, and fairness. It was found that the only child was definitely superior in parental occupational status, marks in school, and health. The only child was found to be slightly superior in personal appearance, initiative, self-control, industry, truthfulness, dependability, courtesy, I.Q., cooperation, and conformity to law. The children with siblings were found to be superior in extra-curricular activity and voluntary cooperation.

Only Child More Generous?

In a comparison of the only child with others on teacher ratings and the Woodworth Questionnaire, the median overlap of distribution was 87.2 per cent. The differentials on generosity favored the only child, and those on obedience favored children with siblings.[15]

Goodenough and Leahy[16] studied 350 kindergarten children from a superior residential section of Minneapolis. Teachers were asked to rate the children on fourteen traits. They found no difference between the only child and non-only child on attitude toward property. Only children were rated as being more aggressive, more self-confident, more fond of physical demonstrations of affection, and more gregarious in their social interests. They were also found to be more moody and excitable, and their attention appeared to be more flighty and distractible.

In a study of 1,373 boys who were referred to special schools in Philadelphia, Owen[17] found no conclusive differentials involving the only child. He concluded that no factor could be singled out as one of causation.

Recent Studies Find Few Differences

Recent and more scientific studies appear to be finding that the only child is not significantly different from other children. Van Krevelen[18] surveyed data gathered from schools and clinics and came to the conclusion that the data do not justify characterizing the only child with any particular disposition. In a later study[19] of 500 children in a guidance clinic, 3.6 per cent of whom were children without siblings, it was found that there is no particular psychoneurosis peculiar to the only child. These two studies indicate that the neuroses of the only child may have some common sources; namely, fear of development, refuge into a fantasy world, and the Oedipus complex. Van Krevelen suggested that emotional maturity requires a prolonged period and the only child seems to fall below par in the daily struggle for life.

Wattenberg[20] studied 1,722 boys who had been in juvenile court but whose sentences were suspended. He found that 8.4 per cent were children without siblings and concluded that the only child is less than half as frequent among boys in trouble as among the general youth population. He also found that the only child is less apt to be a repeater in crime.

Witty[21] studied 153 children—eighty-two girls

[13] *Ibid.*, p. 547.

[14] Guilford, Ruth B., and Worcester, D. A., "Comparative Study of the Only and the Non-Only Child," *Journal of Genetic Psychology*, 38:411-422, 1930.

[15] Wattenberg, *op. cit.*, p. 365.

[16] Goodenough, Florence, and Leahy, Alice, "The Effect of Certain Family Relationships Upon the Development of Personality," *Journal of Genetic Psychology*, 34:45-72, 1927.

[17] Owen, Albert A., "A Behavior Problem Boy," *Journal of Education Research*, 20:166-180, 1929.

[18] Van Krevelen, D. A., "The Psychoneurosis of the Only Child," *Kinderpsychist*, 16:43-55, 1949. (*Psychological Abstract*, 25:90, 1951, by R. Lassner.)

[19] Van Krevelen, D. A., "Psychology of the Only Child," *Enfrance*, 4:167-174, 1951. (*Psychological Abstract*, 27:109, 1953, by F. C. Summer.)

[20] Wattenberg, *op. cit.*, p. 365.

[21] Witty, Paul A., "The Only Child at Age Five," *The Psychological Clinic*, 22:73-87, June, 1933.

and seventy-one boys—and concluded that the only child is superior in general, but he suggested that such superiority is influenced by the socio-economic status of the parents and by the mental superiority of the parents and the child. He also suggested that superiority could not be attributed to the aloneness factor.

A recent study by Dexter,[22] in which three items relating to personality were chosen for observation, revealed that the only child is more unpopular than the non-only child, that the non-only child appears in the average group more often and is designated by a nickname, and that the only child is not as subject to homesickness as the non-only child.

It may be generally concluded that the evidence in the literature regarding the only child is confusing and contradictory. However, there is no doubt that brothers and sisters have strong influences upon the personalities of one another, influences which are different from the effects exerted by the parents. From both relationships children gain perspectives of themselves and training in social adjustment. In dealing with their parents they learn response to authority; in dealing with their peers they learn to compete with equals. However, in our modern social structure it appears that children may get experience in peer adjustment and yet be only children. There are many things that may contribute to this adjustment, such as (1) awareness on the part of the parents of some of the problems involved, (2) increase in the number of only children, (3) the attitude of the public toward the only child, and (4) the attitude of the child toward being the only child.

It has been a rather popular opinion that the only child could be spotted every time. This belief came, perhaps, from some of the early studies that appeared to be so conclusive. Barclay[23] recited an incident where the fallacy of this opinion was pointed out. In a game of "spot-the-only-child," teachers who thought the only child could be spotted were asked to do so. The results indicated that they missed as often as they guessed correctly.

If future studies of the only child are to be conclusive and to throw some light on the situation, it is certain that such studies of the effects of family life upon the child must be approached with greater respect for social, economic, and cultural variables.

[22] Dexter, Emily S., "Three Items Related to Personality: Popularity, Nicknames, and Homesickness," *Journal of Social Psychology*, 30:150-158, 1949.

[23] Barclay, Dorothy, "When There Is Only One Child," *New York Times Magazine*, September 12, 1954, p. 47.

College Attendance Costs Today Double 1940 Figure

The amount that students spend in attending college has doubled since 1939-40, according to Lawrence G. Derthick, commissioner of education, quoting a U.S. Office of Education survey. The expenditures of full-time undergraduate students attending public college this year are averaging about $1,500. A student in private college pays about $2,000 a year. Comparable expenditures in 1939-40 were $747 and $1,023.

Per student expenditures ranged from $200 to $5,500 per year. For the middle half of the group surveyed, the range was from $815 to $1,708.

Figures include both living costs—clothes, room, board, travel, recreation or entertainment, etc.—and educational costs—tuition, fees, books, and instructional supplies and equipment.

At tax-supported institutions in 1952-53, living costs represented five-sixths of the total. At private institutions the fraction was two-thirds, the survey shows. Average tuition and fees at public colleges totaled about $175 and at private institutions about $550 in the same year.

Students living with their parents spend $300 to $350 less than those living in a private home, dormitory, club, fraternity, or sorority.

Ten per cent of college men and eight per cent of college women in 1952-53 were from families with annual incomes of less than $3,000. The average family in the lowest family income group devoted about one-fifth of its income to its child in college. In the higher income groups, the average was less than one-tenth.

Families supply 41 per cent of the money for college students; 29 per cent comes from students' own savings; and students earn 17 per cent after entering college. Other sources are scholarships, 5 per cent; veterans' and vocational rehabilitation programs, 5 per cent; loans, 1 per cent; and miscellaneous, 2 per cent.

Two-thirds of the men students in the survey worked, earning an average of $486 a year. Half of the women worked, averaging $265.

More than 15,000 students from 110 colleges were included in the random sample for the survey. It was conducted by Ernest V. Hollis.

Suppose the day comes when school teachers achieve the professional status of, say, doctors of medicine. Here's a scene from this strange new era.

The Teaching Profession—1987

By GEORGE F. FISHBECK

THE Eminent Physician sat nervously in the front office. His eyes roamed over the room. "A typical school-teacher's waiting room," he thought. On the desk in front of him were a few old trade magazines—the *NEA Journal*, the *Phi Delta Kappan*, a paper-backed *Report of the Commission on the Reorganization of Secondary Mathematical Requirements in the Public Private Schools*. "Wonder why they never have anything to READ in these waiting rooms," he muttered, half annoyed. His eyes rested for a moment on the framed diploma on the wall, then darted anxiously down at the frightened face of His Boy.

It had come as a shock to him, the fact that His Boy needed additional pedagogical attention. Both he and the wife of the Eminent Physician, the Mother of His Child, thought they had been so careful to avoid any of the typical juvenile delinquencies. At the age of four he had been enrolled in Mother Hartley's Day Nursery. At five he was in kindergarten, and at six he enrolled in P. P. S. #7* on the hill. True, some of his friends had to have Booster Shots of education in summer school. Perhaps . . .

Suddenly the door opened. There stood the Eminent Teacher, smiling at both the Father and the Son and saying, "Won't you come in, please?" They walked through the door into the Inner Office. "Have a chair. I'll be with you in a second."

The Inner Office was typical, too. On the Eminent Teacher's desk were a closed-circuit TV screen, a Terstrong Adjustment Inventory, and an Autoelectron Paper-Scoring Machine, the Working Tools of his Profession. Educational tomes filled a bookcase against the wall, on top of which grinned a skull. ("About ten years old," thought the Eminent Physician.) Inside, the skull seemed familiarly vacant.

The Eminent Teacher returned. "Now, what seems to be the trouble?"

"It's about My Boy," the Eminent Physician began. "He has always been a Fair Scholar—nothing to brag of, but fair. Now we have decided that he has got to go to College to become an Eminent Teacher, like his second cousin Lawrence. Therefore, he needs to Excell in His Work at once!"

"Hmmmm," hmmmmed the Eminent Teacher. ("Parents always wait until the last moment in cases like this and then want quick action.") "Hmmmm." The Eminent Physician looked even more worried.

"Now, let's see," said the Eminent Teacher, as he tested the boy's Vowels and Labular Articulation. He probed and prodded, first with a Quick Quiz, then with an Oral Exam. And all he would say was, "Hmmmm."

The Worried Parent was almost frantic! "What does he need, Teacher? Extra-Curricular Therapy? Or more Hall Passes? He HAS to go to College!"

"No," contemplated the Eminent Teacher, wiping his thick glasses on his Brooks Brothers Coat. ("This kid is O.K.—just being pushed too hard.") "No. He is just suffering from pre-vocational disorientation, chronic hyper-directionalism, and a bit of abortive curriculum tinkering. Nothing to worry about. Just have this Prescription filled at your nearest Library."

The Eminent Physician looked down at the Prescription and muttered, "Why do you Teachers *always* write your Prescriptions in English so that they cannot be read except by Librarians? Why don't you write them in Latin so that an Eminent Physician could read them too? Say, I'll bet it's probably some simple book that I could get in the Pocket Edition from the news stand!

MR. FISCHBECK *(Beta Rho 79) is a teacher of general science at the Monroe Junior High School, Albuquerque, N.M.*

* Public Private School No. 7. All schools, as well as hospitals, are now built by the federal government. (State and local taxes were junked long ago.) But the merit rating and desegregation issues have been resolved by hiring teachers privately. People now form small groups to select their own teachers, and pay on a fee basis. Everyone buys Education Insurance at the time of marriage, of course, so big families are no burden Financially.

Teachers and Librarians are in Cahoots, trying to keep each other in business. What about your fee?"

"Well," calculated the Eminent Teacher, "since the examination and diagnosis took almost an hour, that will be forty dollars, please."

The Eminent Physician dug deep into his pocket, producing two twenties. "Thank you, Teacher, and good-bye."

"Forty dollars! Thank heavens it wasn't a house call—why, he might have charged double that," mused the Eminent Physician as he walked out of a side door.

"A lousy forty dollars! But thank heavens it wasn't a house call. They usually wait until evening when I'm at the Club," mused the Eminent Teacher as he walked back through the Inner Office to the door of the waiting room. "If I had it to do over again, I'd never be an underpaid, over-worked GP. This is the day of the Teacher Specialist.

"Next."

The Ubiquitous I.Q.

By **S. C. BOLSTAD**

THAT things move slowly in education is common coin, just common. It took us over twenty years to correct certain misinterpretations of Dewey. We had to go overboard on "progressive education" before we began to understand it.

It also took us twenty years to discard the "constancy of the I.Q." concept and we are yet, in spots, suffering from it.

Within the field of testing of intelligence, the teaching profession has now been subjected for five years or more to the preachment that an intelligence test must be non-verbal to be acceptable. We have this in the air to evaluate.

The choosing of the kind of test tasks that belong in an intelligence test cannot be limited by popular slogans such as this one: an intelligence test must be non-verbal.

The person who develops an intelligence test is confronted, at the outset, with the necessity of selecting test items from a great range of potential content. The principle to follow in selecting items was stated by Dr. Kuhlmann. He said that the capacity of a test task to discriminate between mental abilities at successive age levels becomes the chief merit of the test.

The test may be verbal or non-verbal. In the lower grades it becomes necessary to limit content to non-verbal items because of reading difficulties. Above these grades the way is open to make use of a wealth of verbal tasks. Experience makes it necessary to use verbal contents having the reading level, as such, well below the age level of comprehension.

There is another thing that needs care. In working with the I.Q., we must not over-rate its importance. Other factors involved in the total personality are just as vital. Some of them particularly influence successful use of mental ability, as everyone knows who has taught a bright, lazy boy.

It will eventually become generally accepted that the intelligence test measures only a part function of the whole personality. That part will not be zero nor will it be 100 per cent. Perhaps it will be accepted at 20 to 30 per cent.

This will greatly modify the theory that every child should be graded in accordance with his I.Q. Unfortunately, this theory is carried into actual practice in many school systems at present and does real harm to many youngsters.

Beyond the service that I.Q. testing can perform, when properly interpreted, there are many additional services which the science of educational testing offers. The recent death of Lewis Terman, America's great pioneer in this field, reminds us that understanding of youngsters' personalities through educational testing is still in its infancy.

MR. BOLSTAD *(Eta 250) is president of the Educational Test Bureau, Minneapolis, Minnesota.*

Motivation, Russian Style

Beyond the ten-year-school level, every USSR student is on a "scholarship." The government pays him up to 490 rubles a month in the technicums, up to 1,000 rubles in graduate schools. The latter amount is more than the average industrial worker makes.

Let's Re-Examine Progressive Education

Although the term "progressive" is in disrepute, "modern" education has adopted many progressive concepts; e. g., continuous progress, broadened instructional materials, socialized and permissive methods. Now lacking is the faith early progressives put in socially significant purposes and a kind of measurement for achievement of those purposes. Here is a blueprint for future action.

By **PHILIP OLGIN**

I. ***What conditions prevailed in "traditional" schools that pointed to the need for progressive education?***

Arbitrarily using the 1920's as the time during which 'traditional" education was at its peak, and necessarily referring to the extreme of the "average" program, we may create the truest picture of the education of that period by characterizing it as a "listening" school with the primary emphasis on verbal and intellectual learnings. Personality, character, and social traits were considered important "concomitant" goals and were designated as "secondary" outcomes of the educational program. Often these traits were not consciously sought, a practice justified by the doctrine which held that a scholar would normally develop desirable disciplinary, behavioral, and social traits during the intellectual development process. Serious objections were voiced by the educational psychologists of that pre-Gestalt period; not only did they advocate considering the growth and development of the "total" profile of the student, but they considered personality, character, and social traits as primary goals which could only be achieved through a conscious and directed training program.

A "part-learning" curriculum was developed to a high degree by the traditionalists. Logically-organized materials were arbitrarily assigned to the various grade levels with a sequence of simple to complex. This was an additive curriculum which faced difficult instructional and administrative obstacles before it could be realized. It did not meet the objections of the advocates of the science of education who insisted that only instructional planning which considered individual differences, level of maturity and growth, and context of comprehension could accomplish the individualization of mass instruction and behavioral learning. It was a perfectionist curriculum which had difficulty in justifying its existence in the light of psychological findings relating to the curve of forgetting, transfer of training, and nature of the "whole" learning process, with its emphasis on a flexibility which takes growth and maturation into account.

The traditional educators held for an intellectual hierarchy, a classicism in democratic education which spelled out failure for those who could not achieve an arbitrary numerical or grade level. Under usual circumstances, a student had one-half year—at most one year—in which to prove his competence, regardless of his background, purposes, readiness, or maturity. In full bloom, the "failure" philosophy functioned to eliminate from the school's responsibility those who were intellectually below par. Children were often classified for instruction according to their "I.Q.," which was considered a measure of "native" ability. Yet this valuable information was handled in practice as a constant measure of achievement rather than as a variable measure of capacity. The severe administrative bottleneck which developed at all levels was considered a necessary evil; there was little to be done except wait for the minimum age of release designated by the state to relieve the school of its responsibility.

The classroom was usually administered in an autocratic fashion with little or no provision for democratic pupil-planning or training in democratic experiences. The instructional materials were considered the ends of instruction; it was the function of the teacher to set up provisions for

MR. OLGIN *(Alpha Pi 97) is an associate professor of education and coordinator of student teaching in the Graduate School, Long Island University, Brooklyn, N. Y.*

memorization of compartmentalized materials most often found in textbooks and designated as "subjects." Consequently, the teacher taught subjects to a child rather than the actual child in terms of his needs and abilities. Individual differences were recognized, as previously indicated, only to the extent of eliminating the intellectually unfit. Little concern was shown for future citizenship responsibilities of those who could not meet the standards of mastery of the subjects; these children would have to accept their burden and bear it.

Part-learning instructional methods were utilized by the traditional educators to aid in conquering the instructional materials. The teacher would lecture (tell and explain), and all practice materials used in the classroom as well as the assigned homework had the primary purpose of drilling on that portion of the total materials being considered. The children would then return to the classroom to demonstrate their competence in a "recitation" period. Mastery of each portion of the subject would be evaluated by an achievement test and these tests would be averaged, usually numerically, to determine the total achievement or passing grade. The purpose in measurement, therefore, was to determine the degree to which the instructional materials had been mastered rather than the degree to which the aims and objectives of the total instructional program were achieved in a behavorial context. Curriculum specialists were critical of this inconsistent relationship between the practices and procedures of the instructional program and the guiding purposes which were supposed to give direction to the total instructional program.

II. *What were the basic ideals, purposes, principles, practices, and procedures of the early progressive educators?*

The early progressive educators were concerned with individualizing mass instruction; they reinterpreted the findings of the science of education within the philosophical framework of training our young for the responsibilities of citizenship in a democracy. They were concerned with all aspects of the child's growth and development and consciously sought to improve the dynamics of the learning process so that it would result in mastery of skills and knowledges in a desirable behavioral context. These early pioneers rejected the perfectionism of total memorization of compartmentalized materials and directed their efforts toward insuring that each child would be educated in accord with his needs, background, interests, level of maturity, talents, and aptitudes.

The early progressives recognized that social skills and desirable behavior would have to be taught directly and consciously. Knowledge was no virtue unless it could be applied and only if it would result in desirable behavior in a meaningful democratic context. The autocratic teacher-dominated classroom gave way to a teacher-pupil planning ideal. The minimum outcomes of any instructional program so conceived would at least be basic democratic experiences for all children, emphasizing regard for the general welfare.

Toward these purposes, the instructional program became the vehicle for the application of consistent practices and procedures in accord with the science of education. The part-learning curriculum was replaced in theory by unit concepts of learning; instead of subjects being considered the ends of instruction, behavioral outcomes were stressed. Such terms as "controls of conduct," "units of activity," and "centers of interest" came into use. *The basic concern of the progressive educators was to integrate all of the areas of learning in seeking broad, socially-significant purposes despite the fact that subjects were then considered the best organized sources as a means toward these purposes.*

The classroom was organized as a "miniature democracy"; discipline was interpreted as the development of individual democratic responsibility. The "failure" philosophy was replaced with a policy of "continuous progress." This policy was justified as a further attempt to individualize mass instruction. Reason and experience indicated that children of the same age at least have compatible social interests. Group work in accord with readiness in each skill or content area was designed to offer differentiated instruction. Progressives reasoned that with proper administrative adjustments it would be possible to have children of similar age groups working at different remedial tasks designed to bring them up to "grade" level at the earliest possible time. The curricula experience of the traditional educators was not rejected in entirety during this period; actually, an attempt was made to fuse their more recent ideas into the established school organization. Progressives considered the intelligence quotient as extremely valuable information to round out their knowledge concerning the child's background and capacities rather than as a base for classification for instructional purposes.

The early progressive educators broadened the scope of instructional materials to include community resources as well as abstract, compartmentalized materials. In order to synthesize theory

and practice, more weight was given to excursion experiences. In the new regime, the "whole" method of learning was accepted as a vital replacement for the part-learning method. In seeking the broad, socially-significant goals of unit activity, a teacher-pupil planning and a motivating phase preceded the activity proper. During this phase an attempt was made to encourage some contributions from all of the children—the ugly duckling could be part of the plan and of service too. Instead of the lecture, assignment, recitation, testing sequence, the group worked as a reasonable whole; committees, individual assignments, and similar individualized projects became vehicles for exploring the instructional materials in the light of the purposes of the unit. Drill periods were scheduled as necessary and advisable. Evaluative techniques were broadened too, to measure progress in the light of the purposes of the unit; subjective techniques were used if more refined techniques were not available. The perfectionism of memorization was rejected. Measurement became a flexible instrument and functioned as a realistic aid to further individual guidance; the optimum goal was to give the child many well-rounded cultural and broadening experiences as well as vital skills and knowledges.

III. *What occurred during the period of synthesis of traditional and progressive education which led to misconceptions and, consequently, a rejection of the label "progressive"?*

Criticisms of the early progressive programs were in some instances justified. It is difficult to develop practical and consistent procedures in the early stages of any revised educational program.[1] Major policies needed revision and in many instances critics of progressive education were not informed about the true merits of this new concept of education. Unfortunately, too, district political considerations and emotional conflicts combined to favor the rise of many misconceptions concerning the new program. These misconceptions usually revolved about the following indictments:

A. Progressive education is a radical movement connected with communism and atheism.

B. Progressive education is too permissive; it results in poor discipline and delinquency.

C. Progressive education is concerned only with catering to the child's interests; children do not learn skills and knowledges as well as they did in the "good old days."

D. Progressive education expounds the theory that all children should be "promoted"; consequently, in accord with human nature, children will not work hard at school studies.

In scrutinizing these charges for substance, one who has a working knowledge of our schools and of progressive education must find it difficult to see an actual controversy between progressive and traditional education. Some explanation other than a professional diagnosis must account for the heated attacks made upon our schools. In reality, a synthesis has taken place between these two schools of thought in education. The result has been that more of the characteristics of traditional education have been retained than the controversial features of progressive education. This merger will be considered more fully in the next section of this paper.

An objective appraisal will reveal that progressive education is not a radical movement; rather, it is designed to perpetuate the democratic ideals and practices of a patriotic, nationalistic, individualistic America as defined by our Constitution and other great public documents. The type of internal individual responsibility it fosters in each child of our classroom miniature society is certainly more in accord with American democracy than is an autocratic approach employing fear as a motive for learning. Self-discipline and reason have not yet been replaced in our scheme. There is no substitute for knowledge and cooperative performance in the maintenance of our leadership among the nations of the world.

There are, of course, complex causes for loose discipline and delinquency among school-age children. Those who would make a scapegoat of progressive education are guilty of the worst kind of *post hoc, ergo propter hoc* fallacy. They overlook the fact that the worst delinquency areas in many of our cities are the very areas where the schools are least affected by progressive methods. All educators, conservative and progressive alike, expect and demand socially-approved and proper behavior in the classroom. License in the name of liberty is to be condemned under any system.

One of the favorite themes of the "anti-progressive" is the cry that children do not actually learn anything in progressive schools. The "language of love" has not only been misinterpreted as appeasement of improper conduct, it has been further misrepresented as a functioning "guide, friend, and advisor" who miraculously removes any and all obstacles in the learning process. In practice and in reality, drill is the order of the

[1] Stephen Corey, Teachers College, Columbia, says, "It takes eighteen years for three per cent of the public schools to accept an educational innovation."

day when the need arises and the time is psychologically right. We might lecture until we were blue in the face and the children would not necessarily learn anything if the instructional materials were beyond their level of readiness and comprehension; similarly, we could drill and repeat—and repeat—exercises in the skill areas without success if the children did not understand the concepts involved. *The gross misrepresentation is that performance in terms of knowledge and skill is not sought in progressive education; actually, superior standards of performance must be maintained. Without them it would not be possible to attain the socially significant ends progressive educators are concerned with.* Modern studies of the relative effectiveness of traditional and progressive methods of learning do not substantiate the charge that children learn more from the unmotivated mass drill methods of the "good old days." The facts support whole-learning methods.

Finally, the argument against "easy promotion" loses validity when we consider that "continuous progress" need not be one hundred per cent promotion. This administrative plan attempts to remove the emphasis from grades as ends in themselves; rather, evaluation is stressed as progress in terms of growth. It is diffcult to see that educators have any choice in resolving this problem; it would seem ludicrous to justify over-age children struggling with materials not attuned to their stage of development in the company of children several years younger, merely awaiting the minimum age of departure, completely defeated, frustrated, and maladjusted in the grade level. The logical (and progressive) solution lies in special classes, remedial teaching on each grade level, and a motivated approach designed to get the best from the children we are working with. Children will work and learn if they are interested and properly motivated; they will not all learn the same things in the same way at the same rate and we will inevitably lose many of them. The "continuous progress" concept in practice will keep a child from advancing to the next grade level only if his total profile reveals that he cannot profit from instruction in the next grade.

IV. *What gains were made and held; which portion of the early progressive education program have we lost in the process of merger with "modern" education?*

During the stage of initial impact with traditonal educational programs, even in those systems and schools where progressive education was accepted as worthy of experiment, the concept of education of the "total" child influenced actual practice to a slight degree. Despite the fact that the philosophy of progressive education, as found in the professional literature, was accepted as the end of instruction by more and more influential educators as time progressed (in the 1930's), the program of "modern" education which resulted was not similar in all respects to the educational program envisaged and conceived by the early progressive educators. Portions of the early program were accepted and adopted over a period of years: the continuous progress policy, classification by chronological age, socialized and permissive methods, excursions and a broadened scope of instructional materials, and in fewer instances broader bases of evaluation of purposes. *What has been lacking, however, in almost all of the modern programs, has been the faith early progressive educators had in broad, socially significant experiences and purposes as the ends of instruction and a program of measurement geared to evaluate achievement in terms of these purposes.*

We're Still Teaching Subjects

In the "modern" period we have been reluctant, and justifiably so in many instances, to trust vague normative aims and objectives which do not yield easily to attainment. We have been content to keep subjects as the end of instructon, under many labels and disguises. These practices have resulted in much confusion in our modern programs. There is no guarantee that mastery of a rehashed "content" unit (from a subject area) will lead us into the promised land of desirable behavioral, conceptual knowledge more rapidly than the subject activities of our traditional brothers. The early "developmental" unit of the progressives which was designed to be "integrated" and to cut across subject lines has not often been utilized in our modern systems; WE ARE MORE OFTEN INTEGRATING CONTENT UNITS, and the end result has been, ironically but truly, that we are still concerned with the teaching of subjects as the end of instruction. We may, indeed, be content with this turn of events as a preliminary forward step at this time. *But we shall not attain the social or intellectual goals that the early progressive educators held as ideals merely by achieving superficial socialization of classroom organization and instructional methodology. Until we construct a curriculum which cuts across subject lines and which is designed to attain socially significant behavioral goals, and until we develop a supporting measurement program which consciously seeks to measure achievement of these*

goals, we will fall short of the dreams of our early progressive leaders.

The pendulum may swing in the direction of more or less drill, more or less democracy in classroom organization and methodology, and more or less pupil failure—but this is not the real issue; until we break the shackles of the subjects as ends of instruction, children will not share the fruits of the promised land of the early progressives who really wanted to meet their needs and give more than a superficial substance to the scope of instruction. *Unless we have enough faith in our classroom experiences to utilize subjects as sources toward more meaningful social goals, i.e., "controls of conduct," "centers of interest," "persistent life situations," we have missed the fundamental purposes of progressive education.* We have never quite achieved in public education a curriculum flexible enough, measurement programs broad enough, and individual guidance in the classroom competent enough to meet the needs early progressives felt we must meet and conquer if we were to prepare our children for life's problems.

V. *What of the future? Have we some unfinished business with progressive education?*

The term "progressive" is now in much disrepute in education. Many educators feel that modern education is such an improvement over the traditional type of education that a battle of terminology will serve no useful purpose. Hence the following professional blueprint for the future seems reasonable:

A. Teachers and college professors should take to the rostrum to dispel the charge that there is a current "traditional versus progressive" controversy. Modern education is very much with us; the science of education is young and there is room for improvement. The job of educating the public in this professional area rests with the school personnel themselves.

B. Curriculum committees should evaluate programs in individual schools and systems to insure that the practices of the educational program are consistent with the stated goals of the program. This procedure should lead to a re-evaluation of educational purposes as well as a critical examination of instructional principles, practices, and procedures.

C. Curriculum committees may lead their school systems to experiment with broader, more socially-significant educational purposes in terms of life adjustment in our democracy. Pioneers have already worked in this area. For example, Stratemeyer, Forkner, McKim, and associates[2] have formulated a group of socially-conceived behavioral aims and objectives from early childhood through adulthood; these educators have also developed a supporting program designed to achieve these goals. More research should be pursued in this vital area and interest revived in these tasks if we are to improve modern education. A prudent program may encourage educators to examine critically the perfectionism inherent in the desire to master subjects; we shall perhaps come forth with a program which better meets the needs of our children and results in better-functioning, more emotionally stable citizens. The times are hard and time is valuable; we cannot afford to waste it in a dismal cycle of memorizing and forgetting. Our goals must be woven of worthy substance rather than of platitudes too vague or too difficult to attain. We must recognize that transfer will not take place in a mystical fashion; identical components must be present in instruction in a series of life situations.

D. Plans should be inaugurated at all levels of instruction to make admission and content requirements of the curriculum more flexible in terms of the purposes of the instructional program. Guidance techniques must be improved if they are actually to functon in meeting individual needs. Verbal aims which exist only on paper must be eliminated from our curricula.

What of the future of progressive education? Our problems are not common to any level in particular; they are present whether we are trying to master logically-organized materials in preparation for a local achievement test, a Board of Regents examination, or College Entrance Board examination—if these materials are considered to be the ends of instruction in themselves! More problems present themselves in the high school and college, where some solution must be found to the organization of the curriculum around subjects. The fact remains that we must bolster our classroom efforts toward behavioral goals with a more favorable type of curriculum organization. Perhaps the activity program in the form of an enlarged core period will be the answer. We might even compromise temporarily with an activity room in the morning engaged with problems of social living and a drill period in the afternoon designed to prepare students for college entrance examinations in specific subjects.

This phase is part of the future, part of our unfinished business with progressive education.

[2] Stratemeyer, F. B.; Forkner, H. L.; McKim, M. G.; and cooperating members of the Childhood-Youth Education Committee, *Developing a Curriculum for Modern Living*. New York: Bureau of Publications, Teachers College, Columbia University, 1947.

Tests of Statistical Significance

Failure to test for significance of differences accounts for some of the conflicting conclusions found in early educational studies. (For examples, see Dr. Cummings' article, pages 304-308.) Continuing the *Kappan's* "Primer in Research" series, this discussion clarifies, for persons untrained in statistics, the meaning of significant differences in small sample experimentation.

By C. M. LINDVALL

ANYONE attempting to pursue educational research or undertaking serious reading of reported research will encounter, rather early in his efforts, the problem of tests of statistical significance. The researcher will be asking himself if it is necessary for him to determine the statistical significance of his results. The reader will encounter such statements as "this was significant at the .05 level" or "the hypothesis was rejected at the .05 level" and will be reading about techniques such as the "t-ratio," the "chi-square test," and "analysis of variance."

To a rather small per cent of the persons involved the above terms and questions will pose no problem. Due to mastery of the material covered in certain courses in research and statistics, the proper application or complete understanding of the appropriate technique will be quite obvious. But to the majority of persons the problem of the use and interpretation of tests of statistical significance will probably be genuinely puzzling if not baffling.

It will not serve the purposes of the present discussion to attempt to investigate the causes of this situation. Speaking as a person teaching four classes in educational statistics each semester, the writer must admit that he has been disappointed in the understanding gained by the typical student in such courses and doubts that additional course requirements would automatically solve the problem. In fact, it would seem that becoming quite familiar with the steps to be followed in determining a t-ratio or a chi-square value has little effect on the student's understanding of the basic questions underlying tests of significance. Oftentimes, becoming involved with processes of substitution in various formulas and performing the other necessary arithmetic seems to further confuse many students. For these reasons it is suggested that the need for and the interpretation of tests of statistical significance can be understood most easily if the general problem is first studied from its logical rather than its mathematical aspects. To attempt to demonstrate this approach, consideration might be given to a somewhat typical problem in educational research.

MR. LINDVALL *(Xi 837) is an associate professor of education at the University of Pittsburgh.*

A Typical Study

Let us assume that a school administrator wishes to study the effect on pupil achievement that might follow an intensive program of pupil counseling concerning methods of study and the importance of schoolwork. To investigate the problem, he sets up a simple experiment in which he selects two comparable groups of high school students, one to serve as the experimental group and the other as the control group. He gives all students in both groups a battery of standardized achievement tests at the beginning of the school year and again at the end of the year to determine the growth of each student and the mean growth of each group. During the year each student in the experimental group is given a great deal of personal counseling under an established program while the students in the control group are given no counseling at all. In other respects the two groups have equivalent experiences during the year. In analyzing his results at the end of the year, the administrator discovers that the mean growth for the experimental group is greater than that for the control group. If he interprets this result correctly, he will say that this shows that his experimental group showed a greater growth than his control group and that the program of counseling probably had a beneficial effect on these particular students during this particular year. His statistics, which consist of measures of improvement for each of the two groups,

provide him with a description of what happened to these students.

However, the administrator is not concerned solely with these particular students. He is interested in the effectiveness of this program of counseling for all of his high school students and not only for those in school this year but for those who will be in school for an indefinite number of years to come. He wants to make an *inference* regarding this much larger group (or *population*) in which he is really interested, on the basis of the results obtained from the small group (or *sample*) with which he worked in his experiment. It is when a researcher is interested in going beyond a description of the group with which he actually worked to make inferences concerning a larger group that he is faced with the necessity of determining the statistical significance of his results.

Statistical Inference and Tests of Significance

Let us assume that our school administrator, on the basis of the above results, chooses to claim that his experiment has demonstrated that an identical program of individual counseling will produce greater gains in achievement for all present and prospective students in his school. If this claim is made, it will have to be defended against certain critics. These critics would say that the difference between the groups cannot be interpreted as meaning anything very definite. They would argue that the obtained difference is just a result of chance, pointing out that if neither group had been given counseling it would have been an extreme coincidence if one group had not shown a greater improvement than the other. Chance factors could cause a difference. They would claim that the difference actually obtained is of this sort and that the counseling produced no effect. They might go on to say that if the experiment were to be repeated these same chance factors might cause the difference to favor the control group the next time. This type of argument is one that the experimenter must be prepared to answer.

Perhaps the first answer that suggests itself is to repeat the experiment with two additional sample groups. But if the difference again favored the experimental group the critics might well say that chance factors were again operating to cause this result. The experimenter would have the problem of not knowing how many times he would have to repeat the study in order to satisfy all of the critics of this type. Another objection to this solution would be the time, effort, and cost involved in repetitions of the study.

Statistical techniques provide one with a somewhat more efficient method of answering the above arguments. To understand this approach, it should first be noted that in the preceding discussion the experimenter had to have some answer to the assertion that the difference between his two groups would have been a *likely* result even though both groups had been treated in the same way. The logical rebuttal of the researcher would be that the difference is so great that it would have been very *unlikely* to happen if the counseling had no effect. What is needed to settle this dispute, then, is an indication of the likelihood or probability of getting this large a difference between the means of his two samples if there is no difference in the effectiveness of the two treatments for stimulating school achievement. If it can be shown that this probability is extremely small, then the researcher is in a position to say that something more than chance factors must have been operating to produce the difference or, in other words, that the counseling must have had some effect. The function of several different statistical techniques is to provide the researcher with this probability figure. It is not the purpose of this discussion to explain these techniques. The key to the interpretation of research of this type is for the reader to understand that the probability figure provided (usually in the form of a proportion, less often a per cent) refers to the probability of getting the obtained results if there were no differences in the treatment of the groups.

The Use of the Statistical Hypothesis

If the experimental problem posed in the preceding section were to be analyzed most adequately, the experimenter would set up a hypothesis to be tested. In this study his original *research hypothesis* might be that students who receive counseling will show greater gains in achievement than those receiving no counseling. However, for reasons that cannot be explored adequately in this discussion, his statistical analysis would test a slightly different hypothesis which can be referred to as his *statistical hypothesis*. In this case the hypothesis would probably state that there would be no difference in the mean improvement that would result if all of the high school students (the *population*) were given counseling or if they were given no counseling. This statistical hypothesis, sometimes referred to as a *null hypothesis*, must be worded in a manner which will permit the researcher to determine the probability of obtaining any particular sample result if the hypothesis were true, and permit

him to reject this hypothesis if this probability is small. In other words, the original research hypothesis must be reworded in a way which will permit it to be tested.

To return to the example, the researcher is faced with the need for determining the probability of getting as large a difference between the means of his samples if the null hypothesis is true; that is, if there is really no difference in the mean improvement produced by counseling as compared with no counseling. In this particular problem, the needed probability figure could be determined through the use of the "t-technique," which would result in a "t-ratio." In turn, the "t-ratio," through the use of particular tables, would yield the desired probability. Although it might be advantageous to the reader of research to know how this is computed, reports using this technique can be understood if the reader will remember that the purpose of the technique is to determine the probability of getting the sample result if the hypothesis is true. If the obtained probability is judged to be small, the statistical hypothesis is rejected. If such were the case in the present example, we would be saying that there is little likelihood of getting a difference as large as the one obtained if counseling has no effect. Then we are, in effect, saying that counseling *does* produce a difference and that it is a practice which should prove to be generally effective when used with all of the high school pupils.

Testing the Hypothesis

In this analysis the problem of how one decides whether or not a probability is "small" has so far been ignored. But the question of how small the probability must be before a hypothesis may be rejected is obviously of crucial importance. Actually, this must be answered on the basis of the seriousness of making an error in rejecting a null hypothesis when it is really true. However, in most educational and psychological research the probability is described with respect to being greater or less than five chances out of one hundred (.05) or one chance out of one hundred (.01). For instance a report might say that the probability of getting this result if the hypothesis is true is less than five chances out of one hundred ($P<.05$). In such a report it can be assumed that the researcher is using this .05 level as defining the upper limit of what is to be considered a "small" probability. At the same time, he is giving the reader enough information so that he can make his own decision as to whether or not the probability is small. Some researchers will choose to use the .01 level and will report, for example, that $P<.01$ (the probability is less than one chance out of one hundred). Of course the smaller the probability the greater the reason for rejecting the statistical hypothesis. On the other hand, if a report states that $P>.05$ (the probability is greater than five chances out of one hundred) one would probably feel that there is no evidence for rejecting the hypothesis. This would mean, in our example, that we have no reason for rejecting the idea that the two treatments actually produce about the same results and that the difference between the means of the samples is probably due to chance factors.

Some reports of research will contain a statement saying that a certain statistical result, such as our difference between means, is significant at the .05 level. This is the same as saying that the statistical hypothesis should be rejected because the probability is less than .05. In our example, it would mean that the difference between the sample means is so large that it is meaningful (i. e., "significant") with respect to showing that there will be some difference between the population means.

Reading Research Reports

In reading research which reports tests of statistical significance or tests of hypotheses, the reader will note references to the critical ratio, the t-ratio, the F-ratio, analysis of variance, the chi-square test, and to certain other similar techniques. The important thing for the reader untrained in statistics to understand is that these are techniques for determining probabilities and that the probabilities are the real key to the interpretation of results. In most cases, even the competent statistician will go directly to the reported probability to determine the outcome of the study. With a knowledge of certain fundamental steps in the testing of hypotheses and the determination of statistical significance such as this discussion has endeavored to present, persons may interpret research results easily and correctly without having a mastery of the specific statistical techniques involved. The key to this interpretation is the logic of the procedure rather than the mathematics.

A pamphlet on the career of college teaching, designed to help the college undergraduate to think seriously about teaching as a career, is now being prepared under the direction of the American Council on Education Committee on College Teaching.

How College Students Can Teach Themselves

The second of fourteen resolutions adopted by the Twelfth National Conference on Higher Education at Chicago in March was this: "The Conference strongly encourages all who teach in colleges and universities to explore and to develop . . . *ways of wisely extending our resources of teaching talent to greatly increased numbers of students.*" This article proposes a method for doing so which should stimulate the experimentation advocated in the resolution.

By GEORGE YEISLEY RUSK

BECAUSE of the prospective increase in college enrollment, administrators are now calling for the adoption of methods of instruction which would enable students to teach themselves to a greater extent than do present methods and thus aid in holding down the costs of instruction, which otherwise threaten to become overwhelming.

The purpose of the present paper is to show that an excellent method of doing so, which may be called the method of dual examination, lies at hand. In the present discussion we shall limit ourselves to presenting a mere list of the elements of the proposed method, to showing briefly how widely it may be used in college work, and to discussing its educational and financial advantages. We shall assume throughout the paper that students at the college level are equipped with the tools of learning and so no longer need the constant supervision appropriate in primary and secondary education.

The proposed method has the following parts.

A. The memorizing by students, individually or in free groups, of assigned textbook material sufficiently to enable them to answer any fifty of 500 (as a numerical example) objective questions based upon the assigned material. The questions should be freely available in the college library to all students. The examinations would require students to master with great exactness crucial facts in their prescribed courses, such as they should have available in all of their subsequent college work.

DR. RUSK, *who lives in Baltimore, Md., is currently engaged in the construction and application of a common logic for the substitution of formulas for abstractions and the extension by it of research to resolve cultural conflicts. He has published some thirty articles in his field and is now organizing a society to further this work.*

B. The taking of admittance examinations by students for the prescribed courses within such groups of courses as the various students select. These examinations would always be composed of fifty of the above questions. A high arbitrary passing mark, perhaps 90 per cent, should be established for them. Any examination should be repeated as often as necessary, upon the payment of a fee by the student concerned, essentially when he regards himself as ready for it.

C. Independent reading by the students in their various prescribed subjects as soon as they have passed the entrance examinations to the subjects, so that the use of books in the library may be staggered. Such reading would give to the students excellent material; would require them to construct their own comprehensive organization of it on the model of the outlines in their textbooks; and would repeatedly require them to think their own way through statements that in the beginning, at least, seem to them inadequate, self-contradictory, or inconsistent with those in their textbooks.

D. Entering of students at stated times into designated sections of the classes whose entrance examinations they have passed, no section to contain more than twenty-five students, all meeting no more than one-third as frequently as most classes do now. These classes would carry on the following exercises: (1) Reporting by the students to the instructors in class, and then by the instructors to the students, on such points in their textbooks as they wish to discuss with respect to their clarity, correctness, and implications. (2) Reporting by the students to the instructors upon the reading which they have done, the subjects upon which they wish to write their term papers, and their plans for doing so. Receiving in reply guidance for future reading, confirmation or revision of their topics, criticism of their plans, and

assignment of staggered dates upon which they will present their papers to their instructors. (3) Working by the students of exercises and problems found in their textbooks or assigned independently by their instructors. (4) Presentation by the instructors of their own reasoned views concerning crucial issues in the various courses—including applications, illustrations, demonstrations, and experiments concerning those views—and proposed organizations of the fields of the courses in relation to contiguous ones. (5) Taking by the students in each class of one test based upon the above class exercises, the test to be composed of a combination of objective, relational, essay, and problem questions. (6) The return of the term papers, briefly criticized by the instructors in their margins, more fully so in class to set off general discussions.

E. The taking by the students of a final examination composed of a combination of questions from the initial 500, plus objective, relational, essay, and problem questions based upon all of the above class exercises, but chiefly upon the discussion of the term papers.

Method Good for Most Courses

We believe that these methods of teaching would, with minor variations, be appropriate for all courses in the humanities and social sciences. The fundamentals of foreign languages could be taught chiefly by the use of phonograph records before students were admitted to classes in the writing, speaking, and literature of the various languages concerned. The literature classes should be taught as parts of social and cultural history by means of linguistic, rhetorical, sociological, psychological, and philosophical analyses.

The same methods would be appropriate even for the elementary courses in the physical, chemical, geological, biological, and psychological sciences—if these courses were taught from the social and cultural points of view, as they are taught in the elementary courses at Harvard University, and without laboratory requirements. If close-up moving pictures of elementary experimentation were provided in the evenings in unused classrooms, the students would be greatly aided in the mastery of their textbooks. The students not destined to take advanced courses with laboratory requirements would get from the films almost as much as they would have from work in the laboratories—probably in one-tenth of the time.

Thus the methods would need to be seriously revised only in such courses as mathematics and symbolic logic, in which, it may be thought, students need the guidance of instructors from the beginning of their study of textbooks.

Would Use Upperclassmen as Tutors

In all colleges many upperclassmen are available to serve as tutors to students having difficulty with independent study of their textbooks. Tutoring fees could be absorbed as part of the overall cost of instruction in the institution, or, preferably, they could become voluntary extras for the individual students concerned. If the latter, the students would experience added motivation to make the most of the tutorial help. The high benefit to be secured by young tutors from their teaching of underclassmen is described in an article in the *National Parent-Teacher*.[1]

Because of the resulting participation of a number of students in the teaching process, the life of the entire student body would become more completely saturated with intellectual interests than is true at present. Because all assignments would be automatically sorted out into their basic kinds, everyone would at all times know what intellectual processes were expected of him and thus would perform them with increased ability and assurance of meeting requirements.

The proposed method of instruction would also, in coming years, enable the more able students to pass through college in a period of three years, because it would enable each student to progress virtually at his own speed. If such students continued their studies during the summers, even though not enrolled in college, many more of them could complete the college work in three years than would seem possible at first thought. This would not only reduce the cost of education for those students, but would speed their entrance into graduate and professional schools.

Avoids Rise in Instructional Costs

By the use of the proposed method, the cost of instruction could probably be kept near the present level, chiefly for the following reasons: As suggested above, it would enable a sizeable proportion of the students to complete their college work in three years. Although the method provides that large classes be divided into small ones, it also provides that these small sections meet only a third as often as they do now. Therefore, if the present large classrooms were partitioned into small ones, present college buildings could house classes for many more students than

[1] Rummell, F. V., and Johnson, C. M., "Island Scholar-Maker," *National Parent-Teacher*, 49:5, January, 1955, pp. 7-9, 37. Condensed in the *Reader's Digest*, January, 1955, pp. 29-32, as "Bill Lane's Students Win the Prizes."

they now accommodate. If the elementary courses in the natural sciences were taught as we have suggested, present laboratory space would probably be adequate for the work of students taking the more advanced courses in these sciences. Because each section would generally meet only once a week and have a small enrollment, the registrars and deans would certainly have greater freedom in the construction of the general schedule of classes and therefore could make more constant use of all of the classrooms available than is possible at present. Even the present libraries could, for the reasons given above, care for many more students than they can now. It would therefore seem that the only significant additional outlay would be for extra dormitories and dining facilities (and this chiefly in the case of residence colleges) which can often be built upon the capitalization of prospective rentals. So far as they could not be so built, residence colleges could hold their enrollments to their present levels and additional students could go to non-residence colleges.

The proposed method would require the appointment of more instructors for large classes divided into small sections generally meeting only once a week—but the increase would be necessary only in proportion to increased enrollment. Some compensation for any increase in operational costs thus required would result from the fact that classes already small would not need division and yet would by the new plan meet only once a week instead of the present three times a week. And we should not forget that for most colleges increased enrollment means the receipt of increased payments for tuition.

In the past, educators have proceeded on the assumption that there is an optimal ratio of teachers to students on the college level as well as on the primary and secondary levels and that all standardized institutions should at least approximate that ratio. They have also assumed that the lecture method of instruction has more effect than would the study of textbooks by individuals or by voluntary groups of students. Is it not time that educators experiment to discover whether or not college students, already equipped with the tools of learning, cannot, with the use of a method designed for the purpose, take over much of the task of teaching themselves and each other?

Is Our 'Moral Fiber' Weak? PDK Initiate Thinks So

From a Beta Gamma Chapter initiation paper by Commander L. B. Green, USN:

To illustrate my concern that the moral fiber is weak in our society, I shall quote an estimate of American personnel as gleaned from captured enemy documents taken from Prisoner of War Camp No. 5, North Korea, July, 1951:

The American serviceman appears weak in his loyalties, hazy in his concepts of right and wrong, and opportunistic.

Insecure and inadequate by himself, he underestimates his own worth, strength, and ability to survive.

His knowledge, understanding, and familiarity with his country's political history and philosophy are quite limited, even among university graduates.

He views "foreigners" disdainfully, as he does their problems and their aims.

America's superiority and invincibility are to him INHERENT rather than earned or proved.

He resents hardship and sacrifice of any description, as if these were unreasonable and unfair to him personally.

Commander Green is taking courses for the master's degree in education at George Washington University while assigned to active duty with the Chief of Naval Operations in Washington, D. C.

Century-Old ISNU Sticks to Original Purpose: Teacher Training

Its name has been called "a meaningless jumble of words," but Illinois State Normal University of Normal, Illinois (near Bloomington), has now retained the odd cognomen for a full century and is extremely proud of it. In a period when normal schools and teachers' colleges in surrounding states and even in Illinois have been dropping the word "teacher" from their names and introducing liberal arts programs, "Old Normal" not only clings tenaciously to its original title but has continued to enroll only prospective teachers.

Most recent metamorphosis in Illinois is at DeKalb, where the state-supported school has come full circle in little more than half a century—from normal school through teachers college through state college to the present name, Northern Illinois University.

Normal's pride in its identity as a strictly teacher-preparatory institution dates back to a statement made by President Richard Edwards in the birth year, 1857: "The education of the children of the state is the grandest of enterprises."

It is from this phrase that Normal's centennial history, *Grandest of Enterprises*, takes its name. The book, ably written by Dr. Helen Marshall of the Normal faculty, is now available through the ISNU public relations office headed by Dr. Gertrude Hall.

What Has Raymond Done Now?

Oh wad some power the giftie gie us
To see oursels as others see us!
It wad frae monie a blunder free us,
An' foolish notion.

—Burns

By LEILA STEVENS

AN attempt was recently made among seniors from five large Maryland high schools to see the school and its personnel as pupils see them. Only when such a study is made and analyzed can we realize how wide are the chasms that separate the three chief protagonists in the educational drama—parents, teachers, and pupils.

A projective technique* was used in making the study. One hundred fifty students "projected" a series of eleven sketches. The directions explained that each sketch was a short "story" to which the student was to dash off his response, writing freely as the situation unfolded in his memory or his imagination. Three minutes were allowed for the reading of each story and the writing of the response.

One of the sketches was designed to elicit student expression on the parent-teacher relationship. It read:

> Raymond Jenkins takes a note home to his parents. It is from Raymond's teacher asking that one or both of his parents come in for an after school conference with her.
>
> WHAT DO THE PARENTS THINK WHEN THEY RECEIVE THE NOTE?
>
> WHAT HAPPENS DURING THE CONFERENCE?

The students' responses concerned the persons who were included in the conference, the purpose of the conference, the phase of the pupil's life about which the teacher was concerned, and the outcome of the interview.

That the conference would be between the parents and the teacher was the expectation of 142 of the 150 students participating in the study. Six expected it to be between the teacher, the parents, and Raymond; two imagined it between the teacher and the mother.

It is significant that only six students expected that Raymond would be present at the conference.

The students held various opinions of the parents' expectations of the reasons for the conference, the teacher's purpose for requesting the conference, and its outcome. (See Table I.)

TABLE I. Student Attitude Toward the Parent-Teacher Conference (N=150)

	No.	Per Cent
I. Parent expectation of purpose of the conference was:		
1. Pupil's misconduct and/or low scholastic achievement	70	47
2. Pupil's misconduct	48	32
3. Pupil's low scholastic achievement	25	17
II. Teacher's reason for requesting the conference was:		
1. Pupil's low scholastic achievement	52	35
2. Pupil's misconduct	24	16
3. Pupil's misconduct and low achievement	21	14
4. Pupil's personal or social maladjustment	11	7
5. Educational or vocational guidance for the pupil	9	6
6. Pupil's high scholastic achievement	4	3
7. Pupil's physical disability	4	3
III. The outcome of the conference was:		
1. Improvement of cooperation, understanding	70	47
2. Decrease or no improvement in cooperation, understanding	12	8

DR. STEVENS *is supervisor of elementary school student teaching, State Teachers College, Salisbury, Maryland. Her article is a more complete treatment of a section from her unpublished doctoral dissertation, written at the University of Wisconsin.*

*The author favors the term "thought-sampling," introduced by David C. McClelland in *The Achievement Motive*, New York: Appleton-Century-Crofts, Inc., 1953. The term "projective technique" is used here, however, because it is more widely known.

The response revealed the student attitude toward the parent-child relationship, as well as the teacher-child relationship. That an invitation to call on the teacher means to the parent that the child is in difficulty was the reaction of 146 of the 150 students. This opinion is in accordance with the observation of Rothney,[1] who deplores the American tradition that the high school student does not bring his parents to school unless he is in trouble.

Typical of the student responses are these: "The parents think that Raymond has done something against the school regulations. They also think that it must be bad because of their being asked to come to the conference." "Maybe Ray's teacher wanted to talk about something serious or they wouldn't involve the parents."

The students' interpretation of the situation was that while a great majority of the parents anticipated disciplinary trouble, the difficulty lay in the area of low scholastic achievement. It is evident that the students were aware that misconduct and low achievement are frequently coexistent.

The student protocols, though read for explicit meaning and not for "deep interpretation," reveal an abyss of child-parent and parent-teacher misunderstanding. These seniors thought that parents, requested to talk with the teacher, almost without exception assume there is difficulty—scholastic or behavorial—when in fact the child has won a scholarship, has a personality problem, or is suffering from a physical disability. (See Table II.) This revelation of the adolescent's feeling that his parents underestimate him is discussed by Farnham[2] in her book, *The Adolescent*. She cites as evidence of our failure to help the adolescent to mature happily the lack of confidence between parents and their teen-age youngsters and the fact that parents regard adolescent children as problems—something to be "dealt with."

One student fairly well summarized the possible purposes of the conference. He wrote, "An endless variety of things could have transpired during the conference. The conference may have touched one of these points: (1) grades, (2) honesty, (3) misbehavior, (4) vocational guidance. . . . "

The eight students who thought that the teacher's purpose was to commend Raymond for superior work all stated that his parents anticipate

TABLE II. The Subject of Discussion in the Teacher-Parent Conference

	Number
I. SCHOLASTIC STATUS	48
A. Unsatisfactory	40
1. The boy has the ability to do good work but is not working up to capacity:	(24)
a. because of lack of interest	
b. because of too many interests which conflict with his school work	
c. because of lack of preparation	
2. His grades are depreciating	(9)
3. There is danger of his failing promotion	(4)
4. He is failing in one class	(3)
B. Superior	8
1. Raymond has won a scholarship	(4)
2. Raymond's work is superior	(3)
3. Raymond's work has improved, and suggestions are made by means of which it can be further improved	(1)
II. PERSONALITY DEVELOPMENT	14
A. The boy lacks parental support	(6)
B. The boy is unable to get along with his classmates	(5)
C. The boy is suffering from an inferiority complex	(3)
III. BEHAVIOR	12
A. Disturbing other pupils	(3)
B. Deception or misrepresentation	(3)
C. Arguing with or "unmannerly conduct toward" the teacher	(3)
D. Playing hooky	(1)
E. Coming tardy in the morning	(1)
F. Smoking outside the building during school time	(1)
IV. PHYSICAL DISABILITY	5
A. The need for glasses	(3)
B. "Some physical trouble"	(1)
C. "A defect"	(1)
V. VOCATIONAL GUIDANCE	2

[1] Rothney, John W. M., *The High School Student: A Book of Cases*, p. 256.

[2] Farnham, Marynia F., *The Adolescent*. New York: Harper and Brothers, 1951, p. 205.

scholastic or behavioral difficulty as the reason for the conference. Typical responses are:

"Immediately the parents think Ray has done something bad and that before punishing him the teacher wants to talk to them. However, when they get to school and the teacher starts talking to them they learn that Raymond has won a scholarship and wants them to help decide whether to accept or not."

"The parents begin thinking well now what did Raymond do wrong in school. Is he failing? Could he be doing bad work in school, and the teacher is going to tell us that he is going to fail. But maybe after all the teacher only wanted to tell his parents what a good student he was."

Poor Misunderstood Raymond

That the teacher's concern is the boy's personality development was the belief of fourteen of the students. Of these, six thought the teacher was asking the parents to give their son more of their interest, encouragement, and understanding. One student wrote, "They think he has done something he shouldn't. They accuse him of many things, and try to get him to admit what he did. When the conference is held they learn that Raymond is an above average student and that the principal and teacher want the parents to come to see some of his work, for they have never shown much interest in him. The principal knew and understood this and he made the parents realize what their son was missing by not having their approval."

Eight of the students considered that Raymond's difficulty had to do with asocial or antisocial tendencies or with an inferiority complex. An example is: "Raymond is very antisocial! He never wants to have anything to do with other students and is willing to eat lunch by himself, never take part in groups."

The students' responses are to the effect that 32 per cent of the parents anticipate that the child is in difficulty because of misconduct but that, actually, this is the reason for only 16 per cent of the conferences.

Five students anticipated as the purpose of the conference a request from the teacher for parental action in correcting a physical disability. For example, "Most parents would think that Raymond is not doing as well as he could in his studies. Or, they think that he has done something bad. The parents are talked to and it is found that Raymond needs glasses. Poor work is caused by poor eyesight in many cases."

As to the conference, the students predicted that it would cover a variety of matters and would be conducted in a variety of manners. One-half of the students expected the teacher to request assistance from the parents: assistance concerning scholastic and social training and personality development, or assistance in identifying the cause of the difficulty. The teachers inquired about the boy's home life, history, out-of-school activities, companions, and attitude toward school. It is evident that the school is concerned about a number of areas in the lives of students, areas that were formerly considered the province of the home. That the teacher would guide the interview is expected. But the student responses show that in two-thirds of the cases the conferences are dominated by the teacher. "She tells the parents . . . ," "She asks the parents to . . . , " "She questions the parents about . . . . " Chisholm[3] warns that it is an easy matter in any program that includes two or more people for one to dominate the situation and the other to retreat to a position of passive cooperation in which he makes no real contribution; that some guidance workers feel that, after all, the school knows what it is about and that the relationship with parents is for the purpose of getting parents to help put across predetermined plans, but actually, parents and pupils should play a more constructive part. Becker[4] explains that the teacher strives to maintain what she regards as her legitimate sphere of authority over pupils and parents because she considers herself as a professional in her field of activity and the parent as a person who lacks her background and is incapable of understanding school problems properly. About one-third of the students state that the teacher and parents discuss the boy's case. In only three instances do the students report that the teacher asks the parents for suggestions on how she or the school can help the boy.

That the parents will cooperate with the teacher in achieving her purposes for their son is the opinion of 77 per cent of the students. (See Table III.)

More than three-fourths of the students believed that the parents would cooperate with the teacher in this situation. Some of their statements are:

"During the conference, the teacher explains the reason for the meeting. If there is a tangible

[3] Chisholm, Leslie L., *Guiding Youth in the Secondary School.* New York: American Book Co., 1950, p. 300.

[4] Becker, Howard S., "The Teacher in the Authority System of the Public School," *Journal of Educational Sociology,* November, 1953, p. 129.

TABLE III. Action and Attitude of Cooperative and Non-Cooperative Parents

	Number
I. Cooperative parents	66
1. Discuss the boy's case with the teacher	(26)
2. Plan a course of action with the teacher	(22)
3. Assure the teacher that they will see that Raymond does not repeat misconduct	(5)
4. Get an understanding of Raymond's scholastic status	(4)
5. Assure the teacher that they will see that Raymond prepares his school work	(3)
6. Appreciate the teacher's effort to help Raymond	(3)
7. Volunteer a plan by which they will help Raymond	(2)
8. Request that the teacher keep a close check on Raymond's work	(1)
II. Non-cooperative parents	20
1. Defend Raymond and blame the teacher	(10)
2. Cannot believe that Raymond has behaved as the teacher reports	(6)
3. Place full responsibility for Raymond's conduct and work at school upon the teacher	(2)
4. State that they cannot help Raymond with his school work since no home work is assigned	(2)

problem the parents and the teacher try to discuss it and to arrive at some solution."

"The conference will probably be a frank and friendly talk and the teacher and parents understanding the situation better may come to a solution to the problem."

That lack of confidence exists between home and school is revealed by the fact that about one-fourth of the students feel that the parents will not cooperate with the teacher. Hymes[5] says that the average school is not well geared to working with parents of older children because of the teacher's lack of acquaintance with pupils, a condition which results from the small amount of time spent daily by the teacher with a child in junior or senior high school and because of the large number of students with whom he deals.

[5] Hymes, James, *Effective Home-School Relations.* New York: Prentice-Hall, 1953, pp. 217-218.

Some of the student replies are:

"During the conference, both are polite. But the parents are sometimes afraid to really say what they mean. While the teacher can only tell her side. Both leave with just as much mixup or more."

"They (the parents) feel that something must be wrong with the teacher's teaching methods for Raymond is, of course, a smart boy."

"Then too maybe they told the teacher that if she wasn't able to control him then she shouldn't teach."

"Most parents would be glad that the teacher took an interest in their child, but there are some who aren't. These may feel offended by the teacher's attitude and during the conference make the teacher feel very dissatisfied about her decision to talk to the parents."

A few students were uncertain whether the parents would be in sympathy with their son or the teacher, but felt that they would react by placing onus on one or the other. They say:

"If they (the parents) are sympathetic they will talk things over sensibly during the conference and tell Raymond what was said, if not they will be highly indignant with either the teacher or the child, whichever they consider as not doing his job well."

"The parents take up for there (sic) child and think he is being treated unfair or else they side with the principal and really give it to him if they think he has done wrong."

Comments and Implications

The protocols of the 150 participating high school seniors seem to indicate that the relationship between the parents and teachers of high-school students is very distant. To the parent, the high-school world of his child is a foreign land, one which he enters reluctantly, even on invitation.

Though the parents have little knowledge of their child as a denizen of this far land, they are apprehensive about his status in it, fearing that he is recalcitrant, non-achieving, or inadequate.

About one-fourth of the parents cannot or will not act cooperatively with the teacher in a situation requiring remediation for their child. This failure is due to lack of communication; difference of opinion concerning the role of, or lack of confidence in the competence of, the teacher; or the feeling that they must defend the child. Or is it that they must defend themselves as parents?

The need for a closer relationship between parents and teachers of high school pupils is definitely indicated.

The Astonishing Library

By **WARREN D. ALLEN**

THE late Albert North Whitehead, in his *Adventures in Ideas*, said that "the Greeks had a genius for astonishment." The history of libraries affords many proofs of that assertion; it might well be put down as one of the criteria of civilization. People who are never astonished about anything, who live on a level of dreary, sensuous mediocrity, with no interest in ideas, where they come from and what they may lead to, never contribute anything to the arts and sciences that make life so exciting.

As I look back over a half-century of teaching, the most stimulating of professions, I recall the many moments when I faced a new class. It was a thrilling responsibility to look into those young faces, to pick out those that seemed to anticipate and hope for astonishment. Such faces stood out beyond those of pupils who only registered boredom, cynicism, or self-satisfaction. I soon learned where to look for reactions, for those signs of eagerness that betoken the *student*. I was not surprised when those students came to me later to tell of their adventures in the library.

An alumnus once bragged that he had graduated (barely, with his C average) "without cracking a book" except for occasional glances at the required text. That type is increasingly rare today. A healthy emphasis is returning in education—the encouragement of *individual initiative*. *Groups* attend classes, *groups* hear lectures, but the library exists primarily for the individual student who is eager to learn.

This healthy trend is eloquently defended by Professor E. C. Kirkland, whose honors address at Dartmouth has been reprinted under the title "Learn American" in the *Key Reporter* for Phi Beta Kappa (October, 1956). He makes a timely reply to Dr. Alvin Eurich, vice-president of the "quaintly-named organization from which the good dollars if not the good ideas come" (The Fund for the Advancement of Education). Dr. Eurich, like a modern huckster for cigarettes, urges that we "think modern." He argues that mass education has rendered out-moded the old idea that the best teaching is done in small groups, that with TV and FM, fine teachers (like comedians) can reach large groups (and make them think?). Dr. Kirkland reduces that argument to tatters:

"If the inquiring doctor is really ignorant as to where the idea of smaller classes comes from, I can tell him. It comes from experience." (Eurich has asked where the "shopworn belief" comes from that a teacher should be limited to any particular number of students.)

Dr. Kirkland continues, "It comes from the realization that education is not a one-way street from teacher to student, but is a reciprocal relation between the two. Not that the student ordinarily educates the teacher—far from it—but that with the aid of the teacher the student educates himself."

Kirkland pronounces Eurich's pontifical opinions "so divergent from American experience and purpose that they deserve the epithet un-American in the genuine sense of the word." He shares Dr. Eurich's aversion for the class of twenty-five, not because it's too small but because it is too large to "learn American."

In other words, only in small, intimate groups can mutual astonishment take place; only in such up-to-date American libraries as this one and the revolutionary one in East Orange, New Jersey, recently described in a popular magazine. The life of the community is uplifted when individuals are encouraged to lift up themselves.

MR. ALLEN *(Delta 1653) is an emeritus professor of music education at Stanford University who now lives in Seattle, Wash. This manuscript was written for the dedication of the new library at Florida State University, Tallahassee, on November 10, 1956. At that time the library of the School of Music was named the Warren D. Allen Music Library in honor of Mr. Allen, who formerly taught at Florida State.*

Quoted from the April 6, 1957, *Saturday Review*:

The fragmentation of science into specialties is a serious hazard of modern research. We need specialization, of course, for the expansion of knowledge and technique has made mastery of a single discipline difficult enough. But we also need to encourage a daring spirit in young scientists. We need to say to our students: "You must master a special discipline. But you must also learn to escape from that discipline when the need arises. If in your research you find something that arouses your curiosity, do not drop it simply because it requires knowledge of another science. Acquire what knowledge and skill you need, and enlist the collaboration of other specialists to pursue knowledge wherever it may lead." Our own work in photosynthesis during the past decade is a good example of this kind of "despecialization." We use the knowledge and skills of chemistry, biology, and physics, and have evolved new laws and principles in all these fields. Chemists interested only in chemistry would not have been likely to elucidate the photosynthetic cycle. Nature does not make simple divisions of phenomena into physics, chemistry, and biology. Our greatest future progress may lie in the hands of men who are willing and able to ignore artificial classifications.—DR. MELVIN CALVIN, *University of California, Berkeley.*

Crystal Balls Among the Chalk Dust

This brief peek at the school of the future reveals that compulsory education will be based on skill rather than age, that social maturity will be minimized as a responsibility of the school, that small groups will travel around the world—oh, lots of different things. Mr. McKean doesn't guarantee anything specific, but he is convinced that part-time crystal ball gazing is a worthwhile avocation for educators.

By **ROBERT C. McKEAN**

NOT long ago I heard an educator attempt, in his words, "to step boldly into the clouds while keeping one foot firmly planted on the ground." This would be an uncomfortable posture to maintain, as well as a highly vulnerable one. Yet many individuals are engaged today in predicting the future of our society. Some of them,[1] extrapolating on the basis of current patterns of action, have told us little that is new. Others use more esoteric methods to describe tremendous changes they think are certain to come.

Changes *are* certain to come.

Our schools must keep pace, must adjust to these changes, if they are to do their job well. We need people to man the crystal balls among the chalk dust, pointing the way, giving us things to shoot for.

These looks into the future involve re-structuring of our thinking. We need to suspend, to the degree it is possible, our mental sets in relation to the assumptions of mass education: big business methods, compulsory education, entrance into school by age, class teaching, present pattern of teacher preparation, college requirements, present methods and materials, etc. We must be unhampered by acceptance of what is considered good or bad today.

With a mighty effort to release these mental sets, and with the assistance of but a single vodka martini, your author was able to discern these things in his crystal ball:

1. Compulsory education of the future will be established on the basis of a set of definable skills rather than chronological age.

2. Scheduling in the school of the future will be a very intricate thing. Courses will be indefinite in length; they will not necessarily meet one period a day, five days a week, but may meet all day long, once a week, or once a month. A course ("course"—the use of this term indicates that we haven't yet been able to remove at least one inhibiting mental set) will be completed when the instructor and the students feel that the need for it has been met.

3. Classrooms or, more properly, class areas will not be grouped into great academic plants but will be scattered about the city. In the densely populated communities of the future, all available buildings will be utilized. For example, in many cities the churches are normally the least efficiently used buildings; certainly use may be made of this housing for class areas. Not only will they be scattered, but classes may be rotated or set up on a highly flexible basis. As much as possible, the "classroom" of the future will not be just life-like but will be *life*. The concept of class areas will have to be broad enough to include fields, mountains, lakes, industrial plants. The class area will be located wherever there is something significant to be learned and someone to learn it.

4. In the school of the future the learners will be exposed to stimulating samples of various areas of learning. This will not come as a survey course or the required pattern of several semester courses which cover various fields. Instead, a study of children will indicate approximately when this sample of a certain learning area might most profitably be presented in terms of readiness and interest. All students will be given the opportunity to make this sampling, possibly at various levels of difficulty, within the limits of their capacity. For example, a slow learner will not need to sample the highly abstract learning area of higher mathematics.

MR. MCKEAN *(Gamma Iota 330) is an assistant professor of education at San Francisco State College, and a faculty sponsor of Gamma Iota.*

[1] Leo Cherne, "A Look at Your Life—Ten Years from Today," *Coronet*, October, 1955.

Ideal School of Tomorrow

The shape of the ideal School of Tomorrow is sketched by the school architecture firm of Caudill, Rowlett, Scott, and Associates of Bryan, Texas, in the February *School Executive*.

This school plans no more set schedules for classes, no separate grades for different age groups, no barriers between subjects. In fact, there would be no definite dividing line between the school and the home. According to Caudill and Associates, the ideal campus is in the shape of an octopus whose tentacles stretch out from the center into residential areas, providing pupils and adults alike with "tennis courts, baseball, football, soccer fields, skating rinks, as well as bird sanctuaries, mechanical gardens, and nature study groves."

Instead of classrooms, there are learning laboratories, with light plastic walls that can be put up and taken down in a jiffy. A "central service" equips the learning labs in any way the teacher desires.

5. Teaching that is essentially tutorial instruction, especially for the gifted, will be the typical method used in the school of the future. Resource persons will be extensively used, especially at advanced levels. The learner will be allowed to move at his own rate with no attention paid to chronological age, physical maturity, or previous instruction, as long as he brings interest in the subject, ability to discuss with understanding, and the requisite intellectual ability. Possibly some rough achievement testing will establish that the minimum tools are mastered to the degree necessary. Mental age will be highly important to any grouping that is done. Obviously, this will operate to the benefit of the gifted, a resource that is so ill-used today.

6. Social maturity or the development of it may very well be dismissed or at least minimized as a responsibility of the school. Out of school experiences in the neighborhood, scouting, youth groups of all kinds in addition to what family life exists will provide the social experience needed by the children. The other educative agencies in the community will be encouraged to accept their rightful share of the responsibility for educating our youth.

7. As already implied, instruction will not be set up in neatly outlined, nicely structured blocks of time. It will not be concerned with covering certain chunks of subject matter. Instead, the student will be allowed to pursue the question or topic that has stimulated a real interest for him. Whenever possible, groups of students interested in the same sort of things will be drawn together by the resource person or persons and thus cross-stimulation and cooperative effort in the solution of problems or carrying out of projects will be provided.

8. A highly developed work experience program will be set up which will allow the student to sample a large number of occupations. Guidance will be available to lead him toward jobs in which he will most likely have good chance for success. If the job appeals to the learner and indicates the need for certain vocational preparation, there will be opportunities made available for him to develop these vocational abilities so that he may prepare himself for the job of his choice.

9. Every teacher will be charged with guidance. However, there will be a number of professional counselors, open for individual conferences, possessing vocational and educational information materials and resources, and responsible for the total individual guidance of assigned students. They may see to it that the students' experiences are characterized by appropriate direction and breadth in terms of their interests, aptitudes, abilities, and capacities.

10. Drill periods will be set up for those groups of students who feel, or whose counselors feel, the need to develop new skills or to improve or raise the level of their present skill. Individual students will be allowed to complete mastery of the skill or ability in as short a time as they are able. This grouping will be accomplished in the interest of efficient use of facilities and personnel.

In progressing toward the solution of a problem or investigation of a topic, further progress may be impeded by the lack of a certain skill or tool ability; when this is apparent, the student or group of students will stop to enroll in the drill period until the requisite ability or skill is acquired. Thus the need will dictate this enrollment; students will know why this is important—further exploration of the learning area or progress toward the answer to the question is dependent upon this learning. Truly meaningful and well-motivated learning will result.

11. Small groups will travel, with resource people as guides, around the state, around the nation, and around the world. This may be a fruitful time in which to explore various interests—in taking the grand tour the art museums, his-

torically important sights, other cultures, geography, etc., will be experienced. This will be a time when we share our ideas, interests, problems —ourselves—with people of other lands.

12. The emphasis of the future curriculum will be upon looking at *life* as it exists and as it will be when the children become adults. Then, on the basis of this look, what are the things we *need* to know? feel? read? write? What do we need to *do* in order to prepare for adult life?

Thus education will be looked upon as a continuing thing, offering help when needed, available when the need is felt all the rest of a person's life.

This discussion is, of course, not complete. Any single crystal ball session is not likely to be, you know. Neither are many of the ideas new nor startling, we must admit. However, they represent some of the things our crystal ball indicates as making up the school of the future. We are not now concerned with defending them, nor with how to accomplish them, for these are severe inhibiting influences upon the crystal-gazing act. Crystal gazers must be concerned only with stimulating thought. If they are successful, there will be not the slightest doubt about the accuracy of their predictions!

Rural Folk Lose Voice in Children's Education

Failure to show initiative in school district reorganization has cost many rural residents the right to say how their children shall be educated, according to the director of Harvard University's Center for Field Studies, Dr. Cyril G. Sargent.

"Rural people may feel quite rightly that they would have little opportunity to have their point of view expressed in a large, consolidated district," Sargent said at a recent conference. "But where they operate no schools or only an elementary school, they have no say whatsoever in the policies governing education of their children in districts where children are sent on a tuition basis."

Sargent indicated that many efforts at school district reorganization have "come a cropper" on how to recognize this desire for adequate representation in shaping school policy. But the overwhelming majority of reorganization proposals have been accepted by voters and "the trend is unmistakable," he commented.

Many stumbling blocks still confront plans to secure a strong governmental structure for education, however. "Simple confusion between where the children will go to school and the governmental unit to control these schools has been one of the major deterents to the more rapid growth of efficient units," Sargent said.

He questioned the long-term value of recent efforts to meet this same problem by creating new, intermediate administrative agencies between the local school district and state departments of education.

While these units may serve an interim function in providing small, inefficient districts services they could not otherwise afford, Sargent said "it would seem more appropriate for a state department of education to be adequately staffed with service personnel. Perhaps, where necessary, it could establish regional offices to provide specialized personnel on an area basis, rather than have a somewhat nebulous service organization interjected between the state and the local unit."

Sargent proposed eight major criteria for measuring individual proposals for school district reorganization. They were:

1. Enlarging and equalizing educational opportunity for all children.
2. Relating school district organization to geography and community.
3. Providing equity to all the taxpayers.
4. Providing for economical and efficient school buildings and educational programs.
5. Recognizing the desire for adequate representation in shaping decisions on school problems.
6. Recognizing community sentiment and traditions.
7. Safeguarding the interest of the state as the responsible agency of education.
8. Providing a sound framework for future growth and change.

Commenting on these, he said:

"Evidence from several state studies, particularly those in Ohio and New Hampshire, seems clearly to establish the general relationship between size of district and quality of education. To state this is not in any way to ignore the fact that there have been many able and devoted teachers who aided generations of school children to learn in one-room schoolhouses or very small high schools.

"Not only are there numerous small, inefficient, and uneconomical school districts, but they are all too closely tied to an outmoded, regressive, and unelastic tax base—the property tax. It is not uncommon to find the range in assessed valuation behind each pupil to be in the order of $2,000 per pupil to $54,000. Surely, within such a range of conditions both as to size and as to financial strength the American ideal of equality of educational opportunities can be for many only a myth.

"It is impossible to expect that all tax burdens will be equal in respect to support of schools. It is not unreasonable to hope, however, that wide variations in load and effort can be reduced. To the de-

Keeping Abreast in Education

For a Federal Scholarship Fund

► American Council on Education members overwhelmingly favor federal financial aid to college undergraduates. To date, 80 per cent of the institutional members and 83 per cent of the constituent member organizations favor it in principle. A large majority approved a Council committee plan without change. The Council Committee on Relationships of Higher Education to the Federal Government was asked by members of Congress to help in developing legislation to embody the principles and procedures now approved by this committee.

The first bill for a national scholarship act was drafted by Senator Joseph S. Clark of Pennsylvania, who was joined in introducing it by Senator Wayne Morse of Oregon. Among features of the bill are 50,000 new scholarships per year, averaging $500 each in value. They would be allocated among the states in proportion to the number of secondary school graduates in each state. State commissions would administer the grants. A scholarship winner would have freedom of choice as to course of study, provided it leads to a baccalaureate degree, and free choice of institution in his own or another state. Appropriations for scholarships would begin with $25 million per year, rising to $100 million in the fourth and subsequent years.

---

gree that larger areas are included in a school district, to this same degree in most cases will the unevenness of the tax load be reduced.

"In a time of teacher shortage, one can increasingly expect that the competition for trained personnel will place the small school district at a competitive disadvantage which will be difficult to overcome. It is not impossible in the foreseeable future to anticipate that whole new relationships between teachers and pupils will have to be considered, and that many part-time people or older persons with leisure time will be required to help staff the schools under the supervision and leadership of professional personnel.

"Other things being equal, any recommended program for reorganization (at the state level) should carry with it adequate financial incentives to encourage the reorganization and to absorb some of the capital costs which most reorganizations entail. This should include incentives, or special aid for transportation."

Teacher Turnover—Leveling Off?

► How would you like to be superintendent of public instruction in a state where 32.0 per cent of the teachers left their positions during 1955-56 and 32.3 per cent are expected to leave during 1956-57? This is the situation in South Dakota, according to estimates released by the National Education Association. Other states on this list where a high per cent of the teachers are expected to leave during the current school year are: Arkansas, 21.0 per cent; Delaware, 13.7 per cent; Idaho, 19.0 per cent; Maryland, 15.0 per cent; Nebraska, 14.4 per cent; Nevada, 18.6 per cent; New Hampshire, 14.4 per cent; Oklahoma, 12.4 per cent; Vermont, 16.0 per cent; Virginia, 11.9 per cent; and Wyoming, 16.1 per cent.

Rhode Island expects the least number to leave this year. North Dakota is second with 4.2 per cent and Pennsylvania third with 6.3 per cent. For the country as a whole, based on the forty-one states reporting, 9.1 per cent of the teachers left during 1955-56 and 9.1 per cent are expected to leave during the current school year. This may mean that the situation is leveling off.

We're 'Message-Centered,' Brother

► From *Trends*, published by the National School Public Relations Association:

A most serious handicap for school public relations is that educators, while leaning heavily upon the printed word for communication, are generally miserable writers. What's the trouble? Is it occupational tradition or captive audiences? Or the false snobbery of "learned" writing? Paul A. McGee, writing in *Liberal Education for Adults*, says the problem is even more fundamental. In communications, he says, a professional effort is *audience-centered*, while the amateur's is *message-centered*. "Everywhere there are people talking to themselves," declares McGee, "and educators, I am afraid, form a large group among these as they speak earnestly to people who are not listening."

* * *

Suggested slogan for the executive committee of the U. S. Chamber of Commerce in Washington: Millions of words . . . but not one red cent . . . for tribute to teachers.

Why Teach? Read These

► Two beguiling books of value in the teacher recruitment area have recently come off the press. The first of these is Prentice-Hall's *The Treasure Chest,* a collection of stories and essays by and about teachers and teaching. The complex of affection, zest, and wisdom that goes into the person behind the big desk in the front of the room is the theme of this book, which is edited by Leo Deuel, a teacher himself. It includes essays by such noted educators as Irwin Edman and William James; stories by ex-teachers like Evan Hunter and Elizabeth Gray Vining; varying views of the academic life by plain ex-pupils such as Sinclair Lewis, Shirley Jackson, James Thurber, J. T. Marquand, and Emily Kimbrough. To us, at least, the stories present the real "feel" of the teaching profession.

Second of the new books is Henry Holt's *Why Teach?,* edited by Louise Sharp. In it more than a hundred celebrated men and women offer personal tributes to the teaching profession and to the teachers who have influenced their lives.

Dr. Sharp is dean of women and professor of psychology and education at Central Michigan College, where she is currently engaged in research for a teacher recruitment project.

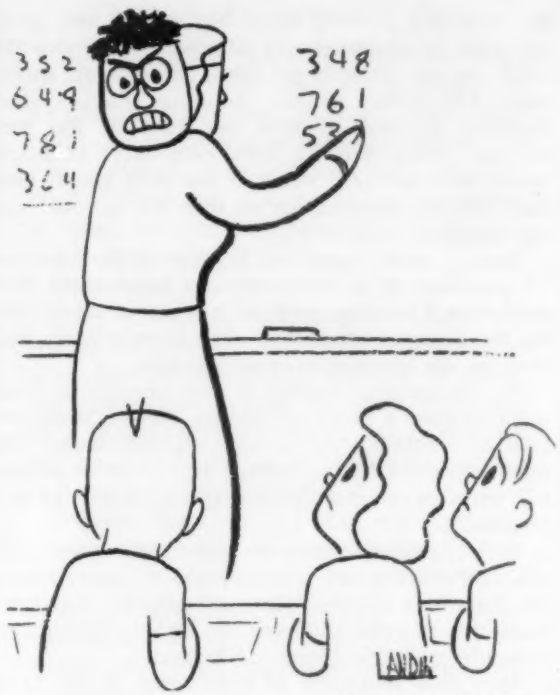
In attempting to prove that teaching is one of the most rewarding of all professions, Dr. Sharp has included such material as the following: "Teacher Believed in Me," by Helen Keller; "The Challenge of Rural Teaching," by Ezra Taft Benson; "Beyond the Call of Duty," by General Omar Bradley; "Teaching Is Creating," by Stuart Chase; "To Teach Is to Inspire," by Norman Cousins; "Teaching as a Desirable Profession," by William Heard Kilpatrick; "One Who Is Greater than his Works," by Margaret Mead; "Citizens and Schools," by Karl Menninger; "It Started with a Pocket Knife," by Joy Elmer Morgan; "Best Hope for Peace," by Senator Margaret Chase Smith; "The Greatest Role," by Pitirim A. Sorokin; "The Time is Now," by Adlai E. Stevenson; and "Seekers After Truth," by Mark Van Doren.

Like *The Teacher's Treasure Chest, Why Teach?* is a varied and stimulating work. In these times of grave concern over the state of our schools, both books reaffirm the immeasurable importance of teachers in American life.

* * *

► Governor Price Daniel addressed the state convention of the Future Teachers of America of Austin, Texas, in late March. Among his remarks, made to four hundred students from Texas colleges and universities, were the following:

"There is no finer profession in all the world than the teaching profession, and there is no profession that needs more good people. There is no reason why the public schools of Texas should not be the finest in the nation, with all the wealth and resources that we have."



—Thanks to the *CTA Journal*

Fellowships for Teachers

► Certain scholarships and fellowships are often overlooked by teachers wishing to advance themselves professionally. Among these are the John Hay Whitney Foundation fellowships open to outstanding public senior high school teachers in the states of Alabama, Colorado, Georgia, Illinois, Maine, Nebraska, New Mexico, Oklahoma, Oregon, and Washington. Teachers receiving these fellowships will spend the 1958-59 academic year at either Yale or Columbia University. They equal in value the annual salaries of teachers to whom they are granted. Supplemental grants are made for tuition and travel. Teachers nominated for the program must be no more than 45 years of age and have at least five years of high school teaching experience. Inquiries should be directed to the Divison of Humanities, John Hay Whitney Foundation, 630 Fifth Avenue, New York 20, New York. The deadline for applications is May 31, 1957.

Eisenhower on Defense

► President Eisenhower, speaking at the NEA Centennial Birthday Party in Washington on April 4:

"Our schools are strong points in our national defense. Our schools are more important than our Nike batteries, more necessary than our radar warning nets, and more powerful even than the energy of the atom."

The Status of the Teacher

► Teachers practice what they preach and go to the polls in overwhelming numbers, concludes the NEA in its recently-published centennial survey titled *The Status of the American Public-School Teacher*. A total of 84.8 per cent of the men teachers voted. Women were even more conscientious—86.4 per cent voted in the most recent election. This is one-third higher than the national voting record.

Among other significant findings is the fact that 72 per cent of all male teachers supplement their professional earnings with other kinds of work. This fits the national stereotype even more closely than men in the profession may imagine.

An encouraging finding is that progress is being made toward a stable profession, though shifts and lack of continuity in teaching are still found. The median teacher has completed 13.1 years of service, 6.7 years in the same school system where he now teaches.

It is also encouraging to note that teachers with the master's degrees now outnumber those without the bachelor's degrees. Three-quarters of all teachers have the bachelor's degree or higher. One-quarter have the master's degree or higher.

Men now make up 27.5 per cent of the U. S. classroom teaching force of 1,100,000. This means that there are over 300,000 men teachers.

It will come as a surprise to some that relatively few teachers are the children of unskilled workers or clerical and sales workers. One-third of our teachers come from farm families, with the rest coming from families of managerial or self-employed, professional or semi-professional, skilled or semi-skilled workers.

The NEA draws this profile of the typical man teacher:

He is 35.4 years old, married, and has either one or two children. Most of the men teachers are married—82.7 per cent. He holds the bachelor's degree. But 42 per cent of the male teachers also hold the master's or higher degree.

His total teaching experience is eight years. This includes 4.8 years in the school system in which he is now employed.

His annual salary from teaching is $4,374. For the rural man teacher the average is $3,671; and for the urban, $4,784. His salary from teaching represents 86 per cent of his total income. He is responsible for the full support of one or more dependents.

He teaches in high school or junior high and has 129.1 pupils in his classes. However, 31.2 per cent of the men teach in elementary schools, with medium classes of 31.8 pupils. In urban schools, where 63.1 per cent of the male teachers are employed, classes are larger. The typical man teacher devotes 11.3 hours a week to school duties in addition to the regular school day.

An active member in a church, he also belongs to at least one other community organization.

If he could go back to his college days and start over again, it's a toss-up whether he would again become a teacher. Of all the men teachers, 53.9 per cent say that they would teach again. However, 16.6 per cent are not sure what their choice would be, and 29.5 per cent think they would do something else.

The typical woman teacher is ten years older—45.5 years, married, and has one child. In addition to the 54 per cent of women teachers who are married, 11.9 per cent are widowed. Only 34.1 per cent are unmarried. The per cent of teachers who are married is the same per cent found in the general labor force.

Although she has taught longer (15.4 years), the typical woman teacher still earns somewhat less than her male counter-part ($3,932). However, this salary is 93.5 per cent of the salary of the average man teacher. One hundred years ago women teachers in rural schools received only 63.4 per cent of the male salary while women in urban schools received 36.4 per cent.

Unlike the men, women teachers would do the same thing again. Of all the women teachers, 80.7 per cent reported they would again choose to teach.

* * *

Suggested reading: "How Good Is Soviet Science?" in the February, 1957, *Fortune* magazine.

—From the CTA Journal

To Maximize Use of Fellowships

► Concerned over the need to make maximum use of graduate fellowships financed by philanthropic organizations in order to alleviate the teacher shortage, the Committee on College Teaching of the American Council on Education is seeking the reaction of foundations to these statements:

Fellowships should not include "indenture clauses" obligating recipients to teach whether or not they prove to be suited to the profession.

To avoid further depleting the ranks from which teachers are drawn, fellows should have opportunities to teach while seeking degrees.

Hurdles presented by graduate study can best be overcome if fellows have adequate means to complete their doctorates. (At least three years' income, one of which could be paid by institutions for teaching duties.)

Too many fellowships go to individuals who can get by without them, hence fail to increase the teacher supply by tapping the pool of students who can go on to graduate work only with financial help.

Too many fellows now elect to go to a very small number of schools, to the detriment of other "preparing" institutions whose facilities must be expanded.

Thanks to Nephews and Nieces

► The theory that learning can be fun gets another test with the advent of a new game called "Spell-a-Vision." Invented by a Trinity College senior named Brooks Baker, the game teaches the fundamentals of spelling and reading, using the principle of word-picture association. According to Dr. Donald L. Herdman, chairman of the Trinity Education Department, the game makes children feel at home with words and helps them learn spelling without boredom or instruction from older persons. Inventor Baker devised the game, now commercially-produced, to entertain several nieces and nephews.

Let's Reverse the Order, Larry

► Many more teachers for Texas elementary and secondary schools will be "harvested" next fall from this spring's record crop of student teachers in the University of Texas College of Education. The number of prospective teachers in student teaching courses has almost doubled the 1948 number. There are seventy-seven elementary student teachers compared with eight in 1948, and 233 secondary student teachers compared with 164 in 1948.

Dean L. D. Haskew attributes the increase to "serious and concerted efforts" by the University and advances in teaching salaries.

Throw Away Those Crutches!

In announcing a faculty-approved series of reforms, Dean of the Faculty Arthur E. Jensen of Dartmouth College said, "Normally, the student goes through college with two crutches: the professor and the textbook. When he graduates, he sometimes stops his education because he no longer has those crutches."

The chief proposals are: Beginning in the fall of 1958, Dartmouth College will switch from two sixteen-week semesters to three eleven-week terms. Instead of taking five courses at a time and thus scattering their attention five different ways, students will be able to dig deeper into each subject by concentrating on only three.

Though students will take the same required courses as now, the nature of the courses will be changed. There will still be large lectures, but these will be supplemented by more and more seminars, tutorials, and term papers involving original research.

Instead of textbooks, syllabuses, and spoon-fed lectures, students will rely much more on their own wide (and required) reading of pertinent books and primary sources in the library. The whole idea, sums up President John Sloan Dickey, is to end the student's "dependence on teaching," and declare his "independence in learning."

Keeping Abreast, Did We Say?

► The following is taken from the *Maine State School Report* for 1856:

"A good schoolmaster ought to be a man who knows much more than he is called upon to teach, that he may teach with intelligence and with taste; who is to live in a humble sphere, and yet can have a noble and elevated mind, that he may preserve that dignity of sentiment and deportment without which he will never obtain the respect and confidence of families; who possesses a rare mixture of gentleness and firmness, for inferior though he be in station to many individuals in the commune, he ought to be the obsequious servant of none; a man not ignorant of his rights, but thinking much more of his duties; showing to all a good example, and serving to all as a counselor; not given to change his condition, but satisfied with his situation because it gives him the power of good; and who has made up his mind to live and die in the service of primary instruction which to him is the service of God and his fellow creatures."

The Educational Researcher Has Busy, Important Future

Educational research, with fifty years of activity already behind it, has only begun to scratch the surface of its potential or find the answers to education's unsolved problems.

And as if such persistent problems as reading and spelling are not enough, a constantly changing society continues to create new problems.

What it all adds up to, according to the 1957 yearbook of the Association for Supervision and Curriculum Development, is a busy and important future role for the educational researcher. The book goes further, suggesting that this future research may need to be focused in such areas as research techniques for the derivation and validation of values. Less has been done about this than in the development of research techniques for studying social and economic trends.

We know more about trends in our society than we do about the implications of these trends in terms of children and youth growing up in that society.

More knowledge is needed about the interrelationships among learners in groups; about his reasoning in drawing conclusions; and about the day-to-day problems he is trying to handle.

Research for Curriculum Development (the title of the yearbook) suggests that one of the biggest lacks at present is research in the classroom setting. "If research is to make a significant contribution to classroom practice, ways of working within the dynamic situation must be devised," it says.

What are some of the criteria for successful research? The yearbook suggests that generally an air of freedom should prevail. Specifically, it lists these ideal situations:

1. A feeling should exist among potential researchers that it is all right to have problems.

2. Research should be designed so that it will satisfy people's needs.

3. Research should start gently, perhaps even on a modified voluntary plan.

4. School officials should help people find security in groups and help them work together successfully as group members.

5. They should provide enough "safety valves" so that steam can be "blown off" when things do not go well.

6. Those in leadership should allow for the lone researcher as well as for the researcher who wishes to work with others.

7. They should involve in research projects those teachers, parents, and others who are high in the power structure of school and community.

Educational research is completed only when its results have been reported to others through the medium of the educational press.

Potential Leadership Lost

► Concurrently with reports of increases in college tuition and housing costs, the *Phi Delta Kappan* receives reports like this:

Kentucky is sustaining a great loss in potential leadership due to the fact that top-level high school graduates cannot afford to attend college.

Only last year, the Kentucky Association of Colleges, Secondary, and Elementary Schools reported that more than 570 seniors in the top 10 per cent of their classes fell into this category.

Being particularly interested in this problem, the University of Kentucky has sought to aid those of high ability who, because of limited family resources, find it difficult to finance a college education. This assistance may be in the form of a student loan, a scholarship, or help in finding part-time employment.

In summarizing the University's program, President Frank G. Dickey said, "Even with this assistance, we are only scratching the surface. Kentucky is a state on the march and therefore has a great need for leadership talent. Secondary school graduates with high ability must be given an opportunity to attend a college or university if this need is to be met."

Short of Science Teachers, Not Students

► The major problem in scientific and engineering manpower is no longer recruitment of students, according to the Engineering Manpower Commission and the Scientific Manpower Commission. Predicting that engineering graduates alone will total 44,000 in June, 1960, a newsletter jointly issued by the two groups says: "The cause for concern lies chiefly in the apparent limitations of our educational facilities. Already many of our schools are reportedly filled to capacity. EMC and ASEE studies last year gave some national form to the rapidly developing engineering faculty problem. Now ASEE, through its Committee on Development of Engineering Faculty, will take a broader and more penetrating look at the problem. Meanwhile, EMC will check more carefully the current relationship between engineering school capacity and enrollments. At any rate, the major problem is no longer one of student recruitment but of educational quality all along the line and the provision of adequate facilities and faculty for higher education in engineering and science."

But If We Were Short . . .

► How do you influence talented high-school seniors to seek scientific careers? The Buffalo (N.Y.) Chamber of Commerce has a project designed to find the answers. Students with high science potential are taken on tours of local plants to see scientists at work. The visits are followed up with lectures and interviews aimed at identifying students most likely to succeed in science.

Take Heart, Ex-Athletes

► College athletes live just as long and die from the same causes as non-athletes, according to findings of a Michigan State University research team.

Former athletes neither burned themselves out in strenuous activity nor did they live any longer on the average than their less active brethren, according to Dr. Henry J. Montoye and Dr. Wayne D. Van Huss, associate professors of health, physical education and recreation.

The scientists said they found no significant difference in the number of former college athletes who died from heart disease compared with non-athletes.

The study, now in its seventh year, has taken a detailed look at 628 M.S.U. sports lettermen and 563 non-athletes, all of whom graduated before 1937.

Of those deceased, it was found that the average age of former athletes was 73.8, compared with 74.2 for non-athletes. Excluding accidental deaths, however, the average longevity for both groups was about the same, 74 years.

The researchers found a higher percentage of drinkers and smokers among the athletes, and with the exception of tennis players, they tended to come from larger families than those not engaging in varsity sports. Wrestlers came from the largest families.

The majority of athletes and their relatives felt that athletics are beneficial.

The Teachers College View

► Hollis L. Caswell, president of Teachers College, Columbia University, points to five developments which he feels constitute threats to desirable educational values. They are (1) extreme emphasis upon particular aspects of the curriculum, (2) the growing emphasis on intellectual achievements contrasted to a balanced personal development, (3) the present attitudes on handling and developing talented students, (4) the growing utilization of mass teaching techniques opposed to those concerned with the quality of education, and (5) the increasing utilization of inadequately prepared personnel on an expediency basis.—*Taken from* BETA DATA, *newsletter of Beta Chapter of Phi Delta Kappa.*

Programs for Gifted Children

► Vol. V, No. 7 of the *Administrator's Notebook*, publication of the Midwest Administration Center, University of Chicago, carries a worthwhile article titled "Planning and Initiating Programs for Gifted Children." Written by Paul H. Bowman, chief consultant, and James V. Pierce, research associate, Quincy Youth Development Commission, Quincy, Ill., it describes the authors' experiences in a school and community program for gifted children which has been in progress for some time.

"You've given us a world torn with dissension, a world steeped in fear, mistrust, and rancor, a world festering with unresolved conflicts and trembling in the shadow of the H-bomb—a state of affairs with which we, who follow in your footsteps, will do our best to cope."

—By permission of *The New Yorker*
Copyright 1956

How Not to Win $64,000

► A professor with six degrees at as many different higher institutions, a knowledge of six foreign languages, and an outstanding record in sports and music has declined an invitation to compete on the NBC quiz show "Twenty-One." He is Dr. Raymond J. Murphy of Wayne State University, who said, "I would prefer to . . . devote my competitive drive to more useful and meaningful pursuits." Dr. Murphy feels that the public interest in scholarship encouraged by such programs is distorted. "It is not unlikely for a brilliant scholar or an acknowledged expert to appear deficient, unknowing, or uninformed when a child or someone without any formal training is able to answer questions he cannot answer.

"Obviously, no one would consider replacing an Einstein with a ten year old kid on any serious subject.

"Being able to remember facts is wonderful, but the real value lies in being able to relate and translate this information into something that is meaningful."

The Part That Stays in Washington

► Dr. Edgar Fuller, executive secretary of the Council of Chief State School Officers, has pointed out in the April, 1957, *NEA Journal* that many claims about the high costs of administering federal grants for school support are false.

He gives the following illustrative costs of federal administration of school funds:

The national school-lunch program, 1.7 per cent of total appropriation.

Vocational education, 2.0 per cent of total appropriation.

Resident instruction in land-grant colleges, 1/20 of 1 per cent.

Federal assistance to schools in defense areas, 9/10 of 1 per cent.

The budget for the school-construction bill now before Congress calls for an administration allowance of 22/100 of 1 per cent of the total.

Why European Business Is Conservative

► Lack of reliance on their universities to supply executives and administrative personnel is one reason why European business and industry have shown such a low rate of increase in productivity, according to Harvard Professor Lincoln Gordon, speaking at an Indiana University business conference recently. He pointed out that business management in Europe is largely a family matter, placing little reliance on university trained people with the exception of technicians and engineers.

In contrast to American business, European industrialists, with a few notable exceptions, are very cautious and do little venturing into research or development, Gordon said. Change is strongly resisted, and there is a general seeking of security rather than expansion of business firms.

Like the Drunk and the Lamp Post

In an article in the April *Educational Record*, T. M. Stinnett corrects a number of false impressions created by the misuse of educational statistics. Among them: That fewer than half of our public schools offer physics and chemistry; that one-third of the states will certificate high-school teachers of mathematics without college preparation in math; that to supply our need for teachers in the next decade will require one-half or more of our college graduates; that only 189 students qualified to teach physics graduated from American colleges in 1956; and that nearly two-fifths of those prepared for high-school teaching do not become teachers.

It all goes to show that some people use figures the way a drunk uses a lamp post—for support, not illumination.

* * *

"The acceptance of the principle that everyone should be able to go as far in his schooling as his talents permit is one of the moral achievements of the present century."—*Professor Charles Frankel*, Columbia University.

S-R BONDS

Dear Editor:

I have been planning for some months to write you an S-R bond, and tell you how much I enjoy the magazine. During the Christmas holidays, I had time to catch up on some of the deferred materials that come to most of our desks and so I sat and enjoyed many of the articles, but the one I want to express an opinion on is the editorial in the March issue.

When I read that, it was about the time I was working away on my federal income tax for 1956, and you struck a responsive chord . . . when you suggested that our fraternity should step into the politico-economic arena and really get our feet and hands into the stream of life . . . to study and seek the why for the inequities and differential treatment in taxes and salaries.

I (think) that it is high time we get our noses off the track of the "C.I. technique," "socialization factors," and quibbling over whether we are feeding our children to Moloch and roll up our sleeves to go seriously to bat for economic justice for all teachers and other groups who seem to live at the small end of the horn.

How can we be sincere in recruitment when we feel and know that the teacher suffers economic handicaps and injustice? Yes, we have gotten small increases, but what do these amount to in the face of continuously rising costs of living?

Certainly it is not outside the pale of our own program of research to delve into the facts about ourselves and our own economic welfare. Let's appoint some real leadership to work for us in this arena where *all of us live*.—T. R. SCHAFFLER *(Alpha Alpha 516), professor of sociology, State Teachers College, Mankato, Minn.*

P. S. I also enjoyed very much the article on the 210-day school year. I have advocated this for years, saying that the old nine-month school year is a cultural lag and is out of step with modern industry and out of keeping with modern trends.—TRS

Dear Editor:

I enjoy the house organ. I disagree with it heartily at times. You fellows are so far in the clouds you are half-socialist and do not know it. Your logic leads you to accept the idea of federal education as if the issue had been fought and won, all except the mere matter of appropriations—those stymied by old, reactionary fools in the Congress! Boy, how you have misread your history and philosophy! It is going to be a great day when the so-called liberals awake to learn that they are the reactionaries, instead. Wow! What weeping and wailing!

We are to the point that the philosophy is accepted, the opposition is not only on the run, it is

ridiculed; the very three-decker brains which preach so of liberty reek instead of I'm-damned-sure-I'm-right coordinated and dictated planning.

I am opposed to federal education, even though I now work for Uncle Sam in education, for these reasons:

1. The expediency of asking Uncle Sam to do it is the worst of excuses, and it is no reason at all.

2. The basic theory that those states which need help should get it is completely, almost, negated in all bills.

3. The argument that most states need help is very tenuous indeed.

4. The fact that if the federals will release some of the taxing authority to the states, the latter can handle their own seems too elementary . . . for discussion.

5. Most educators of the richer states are asking for federal education simply as a gimmick to get around their own electorate—using an anonymous Uncle Sam to do the job which their own public relations programs have failed to do.

6. Those of us who believe in the theory of limited government, government of a separation of powers, and those of us who have read the 10th Amendment in the past twenty years and love The Republic, rebel at the idea that the federals should finance and run education, above all things.

7. The dicta that the federals will give a one-shot help, then step out, is contrary to all of history, contrary to human nature, contrary to common sense, and contrary to the duty of legislators to see that monies they appropriate are spent as intended.

8. The federals may get into any field without too much danger—except the field of education.

9. The idea that the federal govrnment will not dictate is not borne out, in fact is disproved, by experiences with vocational training, such as vocational agriculture, under which program little empires grow up beside regular high schools. . . .

10. Federal education will give impetus to an additional growing octopus-bureaucracy. It will require a new building for the Office of Education in HEW to administer the building, with a million to two millions of dollars per year of extra overhead.

11. It will practically, in the long run, convert our federal system of government into a national system, a result which many honorable men think proper, but a result which will destroy our Republic as a republic.

The only reasons for the idea are these:

1. Political expediency.
2. Need for easy, quick solution.
3. Desire to avoid the embarrassments of delays incident to the idiosyncrasies and ignorance (?) of the very people that our educators and politicians always hasten to say are the most intelligent, finest folk on earth!

Anyhow, some issues of the *Kappan* are perfect; all are partly good. Only a few items stink—and the stinks are caused by the finest of men! We shall destroy the Republic and go to hell in the most wonderful company!—LINDELL BAGLEY *(Beta 1808), principal, Bureau of Indian Affairs, Kotzebue, Alaska.*

Dear Editor:

I must beg of you not to misunderstand me. Your editorial on Bestor is in such conflict with my eulogy of him in my "Bifurcations on a Hot, Iron Roof" that I feel I must write the following.

The wise judge gives his instructions to the jury. "You will hear much evidence on both sides. Be guided by the preponderance of evidence."

Hence it so happens that I can agree in substance with your editorial. Anyone who has spent a lifetime in education and worked in a classroom with real boys and girls knows how easy it is for the theorist to make savage criticisms that become so painful they are almost unbearable. They are unbearable because they are so true. The best test of truth being on both sides is when emotions take the place of calmness and patience—easy for a tired old man.

Men in education do not read widely enough. Take Mr. Boyer's article, "A New Problem in Mathematics Education." What he calls "basic education" is precisely the opposite to that of "The Council for Basic Education."

Will the editor of *U. S. News and World Report* permit you or anyone to answer Dr. Bestor? I wonder. Why not? Because the pendulum is swinging in the direction of Bagley, Effort, Subject, and away from Dewey, Interest, Child. And why?

The reason, the most cogent reason, is that Russia is insisting upon a scientific approach to education that makes all children take all the basic subjects whether they like it or not.

Our flexible system is kinder and more humane and perhaps more advanced in the long run. But right now, at this particular time, in the minds of most intelligent people, we must do something to bring up our scientific strength.

Does it mean nothing that Dr. Bestor has been called to Oxford? Next year he will probably be lecturing in Moscow where they will give him so much power and acclaim he may never want to return to the United States.

That would not prove all he believes is right—not in the least.

The above may read like a quiet condemnation of your article.

I beg of you not to believe that. I believe you honestly represent the majority view of our organization. . . .

I enjoyed the recent articles in the *Kappan* and especially "The Sin of Socrates," which has so much horrible truth in it.

Which way is up? Overhead, obviously. The man on the opposite side of the globe would be point-

ing in the opposite direction. So, too, is it with Truth—there are almost inevitably two sides to the mirror. To be wormy with age is to know that that, too, is but a half-truth.

More strong editorials, please. With the pendulum swinging hard and fast in the direction of the "Subject," they will be needed to bring it and always keep it swinging in the direction of the "Child." Trying to force knowledge down the throat of an uninterested child is like trying to paint red the toenails of an earthworm.—LOIUS J. HENRICH *(Pi 23) 758 Divisadero Street, San Francisco 17, Calif.*

Dear Editor:

Congratulations to Larry Metcalf on his fine article in the April, 1957, *Phi Delta Kappan*. He has defined for Bestor and Company some basic values inherent in modern public education. His well organized article ought to help inform these people that intellectual development is still a primary aim of public education.

It was gratifying to see that Dr. Metcalf pointed his argument at basic values rather than at some statistics or on other superficial nonsense which could do little or nothing to clarify or outline the basic issues. The fact that Dr. Metcalf could point to modern research to substantiate his point of view speaks highly of his belief in the scientific method.

I commend the *Phi Delta Kappan* for recognizing the calibre of such a viewpoint. I would like to see you continue obtaining and publishing articles of this quality.—HAROLD JUDENFRIEND *(Beta Phi 153), 23 Pleasant St., Colchester, Conn.*

Dear Editor:

. . . I believe that the work you have done shows up in the improved magazine. I have had the feeling that it . . . [is too] conservative for a magazine representing an organization dedicated, among other things, to leadership. Certainly leadership cannot come from close adherence to the policies of the conservative elements of education. New ideas, liberal policies, are not bad just because they are new or liberal. They must be voiced and published, even though they are not popular, if we are to progress. I sincerely hope that you will let the new voices be heard through the medium of the *Phi Delta Kappan*.—F. M. SPURLOCK *(Beta Delta 336), 707 Fox Street, Aurora, Illinois.*

Dear Editor:

Would it be possible for us to secure 500 reprints of the article, "College Teaching: Challenge. Opportunity," by Dr. Ray C. Maul? Dr. John E. King, president of this college, would like to have them for distribution to some of our outstanding graduates.—ALEX A. DAUGHTRY *(Beta Delta 350), director of field services, Kansas State Teachers College, Emporia.*

'We Hold These Truths . . . ' Expresses Professional Belief Of California Teachers

(This is an explanation of the statement which appears on the inside back page of this issue of the Kappan. *It was prepared by Garford G. Gordon, assistant director of research with the California Teachers Association. Copies of a bulletin detailing the significance of each statement of principle may be obtained from Mr. Gordon. The CTA address is 693 Sutter Street, San Francisco 2, Calif.)*

The California Teachers Association frequently calls upon teachers, legislators, and the public generally to support measures proposed for the good of the public schools of California. What are the principles back of these proposals? What is considered opinion of the profession of education as to what should be done and how it should be done in the public schools? It is the belief of the 86,000 members of the California Teachers Association that the determination and expression of this professional opinion is a responsibility of professional educational associations. To formulate such statements for the consideration of the membership, the association created a Committee on Educational Policy in 1955.

The commission began its work with the conviction that if it were to be able to formulate policy statements on individual issues it must first secure some agreement on the generalizations which are to be accepted in facing specific problems. After thorough discussion and review by the profession, the representative assembly that governs the association, the State Council of Education, adopted a statement proposed by the commission.

Although the members of the commission and the staff of the association were responsible for the formulation of the statement, it is much more than an expression of their opinion. "We Hold These Truths . . . " is an expression of the present state of professional belief in California.

The membership of the commission at the time it formulated "We Hold These Truths . . . " was: Howardine G. Hoffman, chairman; Arthur F. Corey, secretary; Nicholas Bondoc, William A. Brownell, Clara Carter, Everett Chaffee, Isabel Chapin, Jay D. Conney, Lyylie Gleeten, Thelma Gomez, Guy Jaggard, Charles R. Timpany, Louise Weller, and John Whinnery. Garford G. Gordon was staff consultant.

* * *

He makes no friend who never made a foe.

—*Tennyson*

"We Hold These Truths..."

The Public School is the major agency by which society assures both its stability and its evolution.

The Public School is based upon a firm belief in the integrity and worth of the individual.

The Public School is committed irrevocably to strive for equal educational opportunity for all.

The Public School is dedicated to the ideal that human liberty is best guaranteed through representative government and democratic processes.

The Public School is of itself a recognition that only an enlightened people may safely exercise liberty and wisely pursue happiness.

In keeping with these principles it is the obligation of the free public school in America to provide for every person the educational opportunity which will enable him proudly to assume his responsibilities as an American citizen.

(A statement of belief by California teachers. See page 236, second column.)

INTRODUCING AN APPROPRIATE NEW MEMENTO

- ***TAILORED to the writing needs of the most exacting***
- ***DESIGNED to be the year's PERFECT GIFT***

By special arrangement with the manufacturer, we offer you the fine Desk Pen Set described below. Order two, three, four, or more. You will want one for your office and home; buy a couple for gifts to Phi Delta Kappa friends or relatives. Better yet, get up a "pool" of orders among your PDK associates. You will be delighted with the pen set, and all profits derived will be used to help RETIRE THE HEADQUARTERS BUILDING FUND DEBT.

Made of gleaming Styron in a choice of 8 colors: BLACK, MAROON, GRAY, HUNTER GREEN, AQUA, CHARTREUSE, CORAL and IVORY, to match any decor.

The Madison Non-Spill DESK PEN SET

Amazing NEW Pen

Actually FILLS ITSELF

The reservoir is in the base, not the barrel

NO LEVERS, NO PLUNGERS, NO TRICK GADGETS

NOTHING TO PUSH, PULL, TWIST OR GET OUT OF ORDER

- ★ A genuinely fine, smooth-writing, long-lasting pen
- ★ Easy to fill—Cap can't stick
- ★ Ink will not evaporate—Uses any good ink
- ★ One filling lasts for months
- ★ No cleaning required
- ★ The ink never comes in contact with the plastic, thus we guarantee no odor at any time

ONLY $3.00 INCLUDING INSIGNIA

YOUR OWN NAME OR MONOGRAM

Your own name or monogram, or that of a friend, may be inscribed in gold on the opposite end of base from the insignia, at slight extra cost. (See coupon below.)

USE THIS ORDER FORM—MAIL NOW—TODAY

Preferred Products Co.,
Box 148-Sta. F, Toledo 10, Ohio

Send me ..... MADISON NON-SPILL DESK PEN SETS @ $3.00 ea.
(Indicate)—( ) With Insignia Only ( ) With this name (or Monogram) on base:

.....

Colors (your choice)—( ) Black ( ) Maroon ( ) Gray ( ) Hunter Green
( ) Aqua ( ) Chartreuse ( ) Ivory ( ) Coral
Note: For personalized sets add: Full name—75¢.
For Monogram only (up to 3 letters)—50¢.

Add for packing and postage to any point in the United States:	
1 set	40¢
2-3 sets	51¢
4-5 sets	61¢
6-7 sets	76¢
8-12 sets	$1.10

Ship to .....

Address .....

City ..... State .....

Your Chapter Name & No. .....

Note: Allow 14 to 21 days for delivery—7 days additional for personalized sets. OHIO MEMBERS ONLY ADD 3% SALES TAX.